

**CAPACITY-BUILDING: AN INQUIRY INTO THE
LOCAL COASTAL PROGRAM COMPONENT OF
COASTAL ZONE MANAGEMENT IN LOUSIANA**

A Dissertation

by

CARLA NORRIS-RAYNBIRD

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2006

Major Subject: Sociology

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Approved by:

Chair of Committee,
Committee Members,

Head of Department,

Jane Sell
Robert B. Ditton
John K. Thomas
Dennis E. Wenger
Mark Fossett

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ABSTRACT

Capacity-building: An Inquiry into the Local Coastal Program Component of
Coastal Zone Management in Louisiana. (May 2006)

Carla Norris-Raynbird, B.A.H., University of Winnipeg;

M.S., Texas A&M University

Chair of Advisory Committee: Dr. Jane Sell

Social research specifically aimed at evaluating the efficacy of coastal zone management programs at the parish (county) level in building local capacities has been meager in academic literatures and absent from Louisiana Department of Natural Resources evaluative reports. This study addresses this deficiency by examining the effectiveness of Louisiana's Local Coastal Program (LCP) in building local coastal zone management capacity. Using levels of LCP development as a proxy for capacity-building, the study examines the influence of: 1) aggregate level social and demographic characteristics, 2) structural differences, and 3) different types of issue framing (i.e. 'regulator' framing versus 'regulated' framing).

A multiple case design, using survey, interview, observation, and archival methods of data collection, produces two multi-layered data sets – one at the parish level (nineteen Coastal Zone parishes) and the other at the individual level (a target population of parish officials, CZM administrators and advisory panel members). Patterns in findings from quantitative and qualitative analysis are matched to rival theories, namely, resource mobilization theory and social construction theory.

The analyses show that parishes with LCPs have a much stronger presence of 'regulator' framing than do parishes without LCPs. The 'regulator' frame is particularly strong among LCP/CZM advisory panel members, while agreement with regulator frames is lowest among parish council or police jury members. Coastal hazards vulnerability is highly salient to parishes both with and without LCPs, but the translation

of hazard impacts to economic vulnerabilities, such as infrastructure damage, property loss and business interruption, is far weaker for non-LCP parishes.

Themes prevalent in the data include contentions over wetland mitigation issues, disjunctions between the restorative and regulatory arm of LADNR, and disparate perceptions between non-LCP parishes and LCP parishes concerning the benefits of a parish LCP over developmental and maintenance costs.

Overall findings indicate that while resource mobilization is necessary to programmatic participation and the building of capacity, social construction theory can explain the differences between respondent agreement with the regulator frame, and thus the presence of institutional capacity.

This dissertation is dedicated with love and admiration
to my late father
William Thomas Norris
who taught me to imagine...
and who inspires me still.

ACKNOWLEDGMENTS

It is with great appreciation that I acknowledge the participation of my committee members – all of whom I hold in the highest esteem. I consider myself so very fortunate to have had the advantage of guidance from a group of sociologists who are renowned in their areas of expertise. Dr. Jane Sell is the consummate committee chair. She brought her excellent organizational and facilitative skills to the process and made my experience with it so much easier as a result. Her quick intellectual adaptability was also a boon to a project that stretched well beyond resource dilemmas, over multiple literatures and methods. Dr. Robert Ditton shaped my career path and instilled in me a passion for applied sociology. His knowledge and leadership in human dimensions issues in natural resources and coastal zone management made him an invaluable asset throughout the research process. Dr. John Thomas stretched my analytical capabilities and I was grateful for his exquisite attention to detail. His interest and effort challenged me and my work is the better for it. Dr. Dennis Wenger's passion and expertise in disaster management also influenced me in the direction of applied sociology. Although he was in Washington D.C. during the years I was working on the dissertation, he remained engaged and brought valuable insights to the final draft.

This study would not have been possible without the many respondents who cared enough about the subject matter to take time out of their busy lives to complete and send back the survey, or who were gracious enough to meet with me in person. I extend my thanks to them with the added hope that the findings of the study will be informative and useful to them.

During the entire dissertation process, I was employed as a Research Scientist in the Department of Sociology and Anthropology at the University of Louisiana. Under the direction of Dr. Robert Gramling, I conducted fieldwork for an EPA project on global climate change that brought together many gifted cross-discipline minds from Texas A&M University, University of Louisiana, University of New Orleans and Florida A&M University. It was because of the nature and location of this work that I was

introduced to my dissertation topic. The experience and knowledge I gained from one undoubtedly benefited the other. Over the three years that I worked for and with Dr. Gramling, he was always highly supportive of my work and my academic career. His insights and knowledge were tremendously helpful to me in understanding coastal issues within the context of Louisiana culture and history. And he went out of his way to provide the resources I needed to get my own project done.

The dissertation process can be an isolating one – particularly if you are doing the work in absentia. I was fortunate however, to have a very good friend and colleague, Dr. Rhonda Evans. Rhonda had graduated a few years before me from TAMU and was instrumental in my hire at ULL. She was my sounding board, and her home and family, my borrowed ‘haven in a heartless world’.

The three years in Louisiana were good ones. I enjoyed and very much appreciated the collegiality of the department at ULL. I grew to love the people of Louisiana and the Cajun culture. And I came to appreciate their ‘ways of doing’. I grieved for the people of Louisiana as I witnessed the disbelief, acceptance and then resolve with which they met devastation in 2005. The data in the dissertation were gathered prior to the tragic events of Hurricanes Katrina and Rita, and the analysis took place during the immediate months following. I learned a lot about capacity. The findings from this small study on institutional capacity are presented in the pages that follow.

TABLE OF CONTENTS

	Page
ABSTRACT.....	iii
DEDICATION.....	v
ACKNOWLEDGMENTS.....	vi
TABLE OF CONTENTS.....	viii
LIST OF FIGURES.....	xii
LIST OF TABLES.....	xiii
 CHAPTER	
I INTRODUCTION.....	1
Sociological underpinnings.....	1
The setting.....	3
An introduction to the Local Coastal Program (LCP) in Louisiana.....	5
II LITERATURE REVIEW.....	7
Setting the context.....	7
On capacity-building.....	8
A focus on local government.....	9
‘Facilitating features’ and a framework for capacity-building.....	12
Issues of commitment.....	14
Socio-political context.....	16
Character of individual.....	17
Process design.....	17
Mobilizing local participation.....	19
Bringing the literature together in the context of this study.....	24

CHAPTER		Page
III	METHODS OF DATA COLLECTION AND ANALYSIS.....	26
	Drawing from the literature.....	26
	Interview and sample.....	28
	Interview format.....	29
	Field observations.....	29
	Web-based search.....	30
	Survey target population.....	30
	Survey instrument.....	31
	Dependent variable.....	33
	Control variables.....	35
	Independent explanatory variables.....	36
	Hypotheses.....	38
IV	HYPOTHESES TESTING.....	40
	Individual level data analysis:	
	Framing and LCP development.....	40
	Regulator frame development and LCP development.....	40
	Regulator frame development and respondent characteristics.....	48
	Resource dependent occupations and LCP development.....	52
	Parish level data analysis:	
	LCP development and parish demographic factors.....	55
	LCP development and parish economic factors concerning oil and gas.....	56
	Summary and discussion of findings.....	59

CHAPTER		Page
V	DESCRIPTIVE ANALYSIS.....	62
	All coastal parishes.....	62
	Frequency of participation in coastal zone related activities.....	62
	Perceived constituency support for LCPs.....	65
	Perceived vulnerabilities to coastal hazards.....	66
	Perceptions of parish expertise in specialized administrative skills.....	69
	Non-LCP parishes.....	70
	Perception of hurdles to developing an LCP.....	71
	Perceptions of approach and voice if parish had an LCP.....	71
	LCP parishes.....	72
	Perceptions of efficacy of state LCP oversight.....	72
	Perceptions of benefits from having an approved LCP program.....	73
	Summary and discussion of findings.....	74
VI	QUALITATIVE ANALYSIS.....	77
	Respondents from LCP parishes describe the biggest hurdle in forming their local coastal program.....	77
	Comments on perceptions of the LCP program from participants and non-participant.....	78
	Themes from interviews.....	80
	Non-LCP parishes.....	80
	LCP parishes.....	85
	Discussion of interview themes in conjunction with other qualitative data.....	94
	Non-LCP parishes.....	94
	LCP parishes.....	95

CHAPTER		Page
VII	RIVAL THEORIES, CONCLUSIONS, FUTURE DIRECTIONS AND EPILOGUE.....	100
	Rival theory comparison.....	100
	Resource mobilization theory matches.....	101
	Social construction theory matches.....	104
	Summary comparison of rival theories.....	107
	Summary discussion of research.....	109
	Future directions.....	112
	Epilogue.....	114
	REFERENCES.....	117
	APPENDICES.....	129
	VITA.....	166

LIST OF FIGURES

FIGURE	Page
1 Louisiana Coastal Zone showing approximated land and sea area designated as coastal zone.....	4
2 A simplified representation of the federal, state and local levels of the Coastal Zone Management Program with reference to Louisiana	6
3 Line graph of the mean of respondent frames tallies by LCP status category.....	47
4 Measures of perception of constituency support for an LCP grouped by LCP or No LCP.....	65
5 Perceptions of approach and voice if parish had an LCP.....	71
6 Perceived improvement to parish skills as a result of the LCP development process.....	73
7 Perceived improvements to functional aspects of programmatic participation.....	74
8 Satellite imagery of Louisiana (pre-Katrina).....	116
9 Satellite imagery pre and post Katrina - St. Bernard Parish and Plaquemines Parish.....	116

LIST OF TABLES

TABLE	Page
1 Selected characteristics of survey respondents.....	31
2 Description of variables.....	34
3 General linear model comparison of means for respondent frame tally grouped LCP status.....	42
4 Post-hoc Bonferroni test of differences in means of respondent frame between grouped pairs within LCP status.....	43
5 Comparison of means for respondent frame grouped by ‘newer < 5yrs’ LCP status.....	44
6 Analysis of variance for respondent frame grouped by ‘No LCP’ status...	46
7 Crosstabulations for LCP status and respondent frame category.....	46
8 Univariate analysis of variance of respondent frame type.....	49
9 Post-hoc Bonferroni test of difference in means of respondent frame between grouped pairs within respondent type.....	49
10 Comparison of means for respondent frame grouped by council/jury....	51
11 Comparison of means for respondent frame grouped by panel.....	51
12 OLS regression of respondent frame and respondent occupational prestige.....	52
13 Comparison of means of several measures of oil and gas presence in coastal parishes grouped by LCP development.....	58
14 Summary of tested hypotheses and findings.....	60
15 Independent T-test of respondent participation in weekly CZM related activities grouped by LCP or No LCP.....	63

TABLE	Page
16 Independent T-test of respondent participation in monthly CZM related activities grouped by LCP or No LCP.....	64
17 Independent T-test of respondent participation in yearly CZM related activities grouped by LCP or No LCP.....	65
18 Perceptions of physical vulnerability to coastal hazards grouped by LCP or No LCP.....	66
19 Perceptions of economic vulnerability to coastal hazards grouped by respondents from LCP and Non-LCP parishes.....	67
20 Chi-square and Fisher Exact Significance tests for perceptions of physical and economic vulnerabilities grouped by LCP or non-LCP respondents.....	68
21 Perceptions of parish expertise in specified skills grouped by respondents from LCP and non-LCP parishes.....	69
22 Frequency and percentage of respondent perceptions (non-LCP parishes) regarding hurdles to developing an LCP in their parish.....	70
23 Frequency and percentage of respondent perceptions (LCP parishes) regarding efficacy of state CZM program in relation to parish LCP....	72
24 Respondent comments on whether or not LCP worthwhile to their parish.....	79
25 A comparison of characteristics from resource mobilization theory and social construction theory.....	100
26 Findings and themes consistent with resource mobilization theory grouped by LCP or non-LCP.....	102
27 Findings and themes consistent with social construction theory grouped by LCP parish or non-LCP parish.....	105

CHAPTER I

INTRODUCTION

Sociological underpinnings

Historically, the discipline of sociology treated the social realm as being separate and distinct from the natural environment. Constraints from the natural environment on human activity were not considered. This changed with the emergence of the ‘new environmental (ecological) paradigm’ (NEP), which viewed the socio-physical link as reciprocal (Catton and Dunlap, 1980; Freudenburg and Gramling, 1989; Freudenburg, Frickel and Gramling, 1995). This paradigm shift reflected a growing public concern for protecting the environment and preserving the resources in it. Responsive to public concern, environmental and resource management laws were passed in the 1970’s starting with National Environmental Protection Act (1969). A large and eclectic literature subsequently grew on natural resource management issues involving allocations, law and policy.

In the last few decades, sociologists have amassed a literature in environmental sociology, involving social movements, collective behavior, social justice, and risk management that directly or indirectly addresses the paradigm shift. Social scientists have also made inroads in collaborating in multi-disciplinary applied environmental and resource-related research. Save for a few studies (Sabatier, 1977; McCreary, et al., 1992; Tuler, et al., 2002), conspicuously meager in these literatures is social research specifically aimed at evaluating the efficacy of coastal zone management programs in building capacities for better stewardship at the local parish or county level. Reports by the Louisiana Department of Natural Resources on the efficacy of local coastal zone management programs evaluated at the local level are absent as well. This study will address this deficiency by examining the effectiveness of Louisiana’s Local Coastal Program in building local coastal zone management capacity.

As federal Coastal Zone Management policy encourages states to exercise their responsibilities for “wise use”¹ management within federal guidelines, so too does the State of Louisiana encourage parishes² to exercise responsibility in issues of local use that affect natural resources and the environment. A component of the state’s federally approved management program is its provision for parishes in the coastal zone to develop Local Coastal Programs (LCPs), for the purpose of delegating some of the management responsibilities to parish governing bodies. Over twenty years later, less than half of coastal parishes have developed an LCP, one has withdrawn its application, and one has become inactive.

Using levels of LCP development as a proxy for capacity-building, this study asks why, if all coastal parishes have the same opportunities to develop an LCP and are offered the same developmental incentives and guidance, are coastal parishes experiencing different levels of capacity-building? The study seeks to discover 1) if individual and aggregate level social and/or demographic characteristics of respondents influence LCP development, 2) if structural differences between parishes influence the development of an LCP, and 3) whether LCP development is related to different kinds of framing.

Although much of the research on capacity-building has been done in disciplines other than sociology, this research will show that this area of inquiry is rooted in sociological theory and fits within the domain of sociology. Drawing from resource mobilization (Zald and McCarthy, 1977, 1979; Fireman and Gamson, 1979; Freeman, 1983), this study will approach capacity as an administrative resource that can be built and mobilized through the mobilization of other resources (Flora and Flora, 1993). In asking why different levels of capacity are built, the study will draw from social construction theories (Berger and Luckman, 1967; Goffman, 1974) that focus on individual valuations, perceptions and framing. In asking what different levels of capacity and different kinds of framing might mean to how people think about resources

¹ Coastal Zone Management Act (1972) as amended P.L. 104-150 (1996) § 1452 Section 303(2). This is not to be confused with the ‘Wise Use’ movement which promotes the anti-regulatory ideology.

² In Louisiana, a parish is a jurisdictional boundary similar to counties in other states.

(such as wetlands), which as ecosystems are collective goods, but may be in part privately held, the study will reference the collective behavior literature focused on the private – public goods continuum (Dietz, Stern and Rycroft, 1989). This study is therefore situated at the nexus of macro-structural and micro-interactionist sociological perspectives (Klandermans, 1984; Dietz, Stern, and Rycroft, 1989). As such, it brings together different sociological literatures and provides the theoretical linkages of these literatures to public policy and resource management.

The contribution of the study across disciplines and to applied sociology will be the use of social indicators to evaluate capacity-building to add to the physical outcome indicators used in assessing environmental and resource management programs. A more specific aim of this study to the discipline of sociology in particular, is to expand frames theory literature by showing how framing theory might explain why local governments display different levels of capacity-building in relation to the same state level program. By applying frames theory, the congruency of specific frames as developed in previous research, can be assessed within the context of local coastal governments in Louisiana. Through the application of frames theory, it's utility to explain the different ways in which communities view and act toward coastal issues can be examined.

The setting

Louisiana's coastal zone³ (see Figure 1) spans portions of nineteen parishes which include: Calcasieu, Cameron, Vermilion, Iberia, St. Martin, Assumption, St. James, Terrebonne, Livingston, St. John, St. Charles, St. Mary, Lafourche, Jefferson, Orleans, Plaquemines, St. Bernard, St. Tammany and Tangipahoa. While some parishes have all or a significant portion of their area located within the coastal zone boundary, others like Calcasieu have a very small coastal zone designated area. The coastal zone boundary, although based on physical factors such as land elevation, land type and water ingress, is also a jurisdictional boundary created through the federal Coastal Zone Management Act

³ Louisiana's coastal zone area is 5.3 million acres and includes 40% of the coastal wetlands in the United States. The inland boundary is 16 – 32 miles from the coastline and the seaward boundary extends 3 miles out to federal waters (NOAA, 2005).

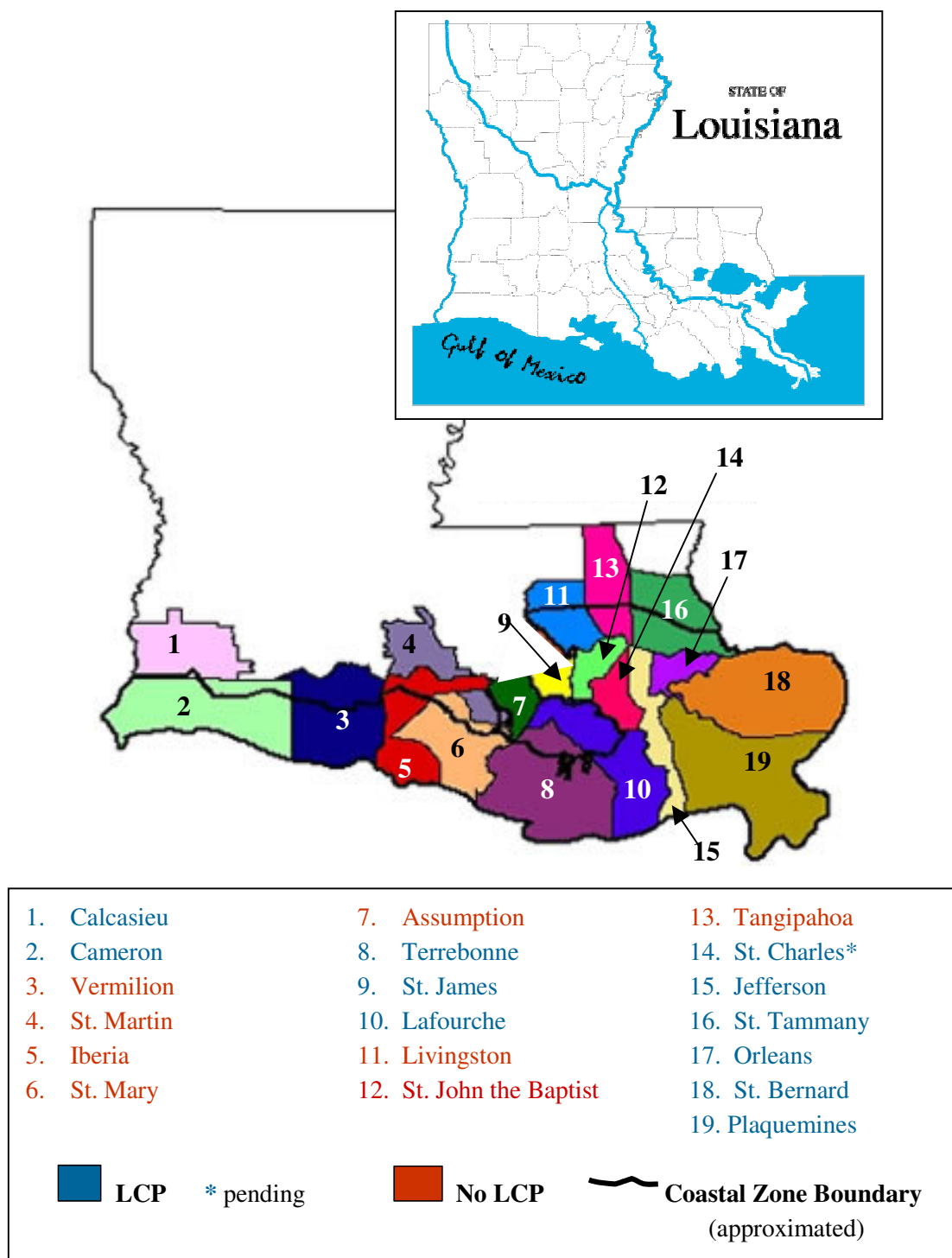


Figure 1. Louisiana Coastal Zone showing approximated land and sea area designated as coastal zone

Sources: Louisiana Department of Natural Resources, full citation in references.

Map inset: http://www.enlou.com/maps/lastate_map.htm

(1972) and more specifically through the Louisiana State and Local Coastal Resources Management Act (1978). It is the political import of the boundary that is of significance to this study. This is to say that a foot on either side of the coastal zone boundary line makes little difference in terms of physical impacts of resource use, land use, or hazards. But in terms of economic and political impact, a foot on either side of coastal zone boundary line makes significant difference. It is at that line that coastal use permitting begins. It is at that line that federal and/or state funding attached to the coastal zone begins. It is from that line that coastal activities of local interest or of greater than local interest are assessed.

An introduction to the Local Coastal Program in Louisiana

The state of Louisiana obtained approval of their Coastal Zone Management plan in 1980, subsequent to the passage of the federal Coastal Zone Management Act of 1972. In the development of the Louisiana Coastal Zone plan, a major focus was the identification of the seriousness of erosion and its deleterious effects on the physical, economic and social health of the coastal region. Enabling legislation was soon passed to address coastal use issues and management of Louisiana's coastal resources. This legislation was the State of Louisiana Coastal Resources Management Act (SLCRMA) of 1978. The Louisiana Department of Natural Resources was designated lead agency responsible for resource management and coastal use issues of 7,721 miles of coast and a population of approximately 2,044,800 residents within the coastal zone. The state coastal zone management program known as the Louisiana Coastal Resources Program (LCRP) established a broad consistency with the aims and objectives of the federal program, while maintaining state authority to manage.

A component of Louisiana's coastal zone program was and is the invitation to parishes within the designated coastal zone to develop local coastal programs and take on some of the responsibilities of coastal zone management as these apply to matters of local concern. Oversight of parish local coastal programs, coordination of parish and state interests and federal consistency rests with Interagency Affairs.

Figure 2 provides a simplified representation of the hierarchal arrangement of the Coastal Zone Management Program at the federal, state and local levels. The state coastal zone management program nested in LADNR consists of three divisions with two primary functions. The Coastal Restoration and Coastal Engineering Divisions are primarily concerned with restoration – needs assessment, facilitation (i.e. funding, right of ways, permitting), design and construction of coastal restoration projects. The Coastal Management Division is primarily concerned with management of coastal use issues through regulation. The Local Coastal Program, located within this division, coordinates the parish Local Coastal Programs concerned with local uses (typically lower impact uses) such as docks, camps, bulkheads, land fills, maintenance of private canals, cattle walks and subdivisions (Louisiana Department of Natural Resources website) as related to parish requirements and wetlands permitting.

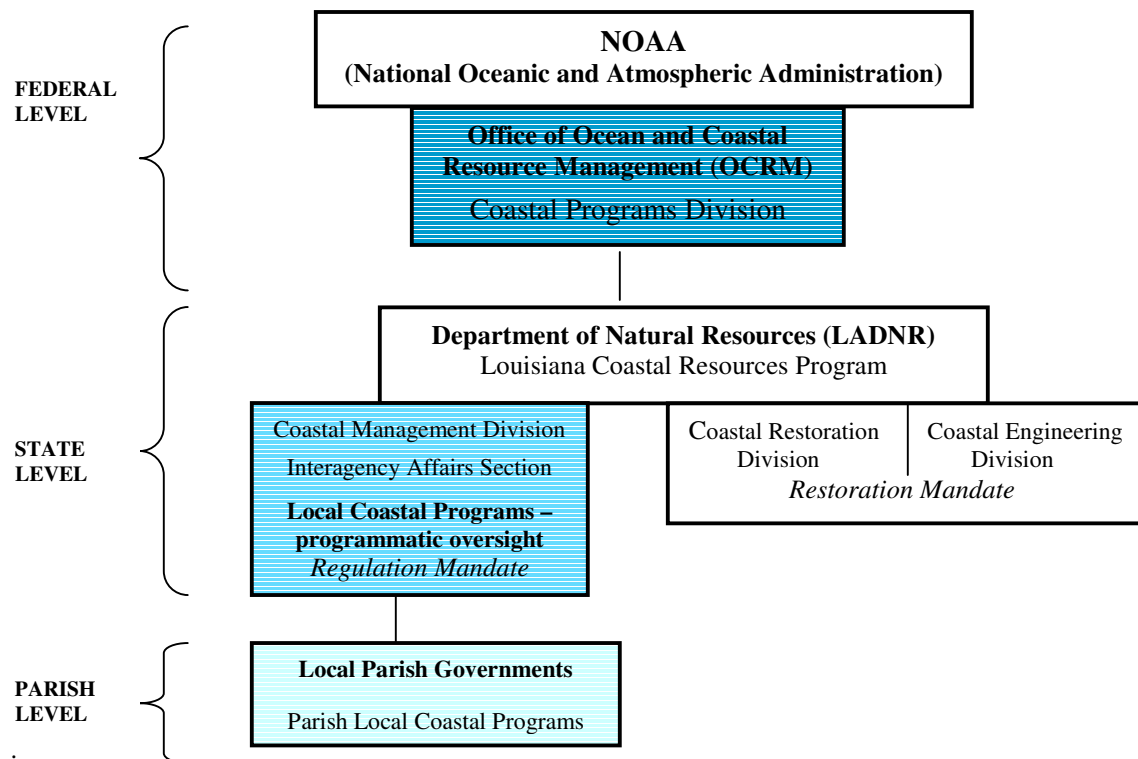


Figure 2. A simplified representation of the federal, state and local levels of the Coastal Zone Management Program with reference to Louisiana

Sources: NOAA (2005) and the Louisiana Department of Natural Resources website. Full citations in citations in references

CHAPTER II

LITERATURE REVIEW

Setting the context

A growing constituency concern for the physical environment, and environmental /resource issues shaped government policy in the 1960s and 1970s (Ditton, Seymour, and Swanson, 1977; Buttel and Humphrey, 1982; Dietz and Rycroft, 1987; Dietz et al., 1989). Prior to this time, resource decisions had been market driven and any regulation of use was based on the 'iron triangle' of industry, congress and the regulatory agency; a combination vested in the Dominant Western Worldview (DWW) which promoted market expansion and technological solutions to environmental and resource issues (Dietz and Rycroft, 1987; Catton and Dunlap, 1980; Catton, 1980). Coinciding with the shift in public sentiment and government policy (Dunlap and Mertig, 1992), a shift toward an alternate worldview occurred. The New Environmental Paradigm (NEP) conceptualized a natural world in delicate balance, with finite natural resources, and with population and the reliance on technological solutions constrained (Catton, 1980; Catton and Dunlap, 1980; Dunlap, 1980; Dietz and Rycroft, 1987). The NEP saw the social world as impacting on the natural world (Field and Burch, Jr, 1991). Social constructionists took the idea of 'balance' a step further with the argument that the social world and the natural world could not easily be separated. Because social facts were often shaped by physical conditions, and the conceptualization of physical facts was informed by the social world, the physical and social environments were mutually contingent (Freudenburg and Gramling, 1989; Field and Burch, Jr., 1991; Freudenburg, Frickel, and Gramling, 1995). Differences in worldviews promoted different relationships between the social realm and the physical environment and these differences became conflictive and political (Dietz, et al. 1989). Because constituency claims were legitimated by differing worldviews and founded on different valuations, it became evident that non-market solutions (or at the very least, cost/benefit analysis

sensitive to non-market valuations) were needed for environmental and resource conflicts (Ditton, Seymour and Swanson, 1977; Harper, 2001). The conflictive nature of ‘market mechanisms’ that polarized stakeholders and favored more powerful ones, was noted by Dolšák and Ostrom (2003).

The restructuring of regulatory oversight that merged interest-based collectives, media and government (Dietz, Stern and Rycroft, 1989) or what Ditton et al. (1977) called the ‘merge of market and bureaucratic policy’, led to a complex assortment of federal and state government agencies, often with overlapping jurisdictions, presiding over matters of ‘greater than local concern’. This was met with resistance from local governments who felt their autonomy threatened (Ditton, et al., 1977; Bardach, 1977; Deyle and Smith, 1989; Lindell, 1997; Burby and May, 1997; Tuler, Webler, Shockey, and Stern, 2002). The states too, had to make adjustments in response to federal restructuring. At each level, constituency support had to be garnered and maintained for the achievement of agency goals (Sabatier, 1975). In examining the agenda of the Coastal Zone Management Act, King and Olson (1988) noted that increasing state capacity to ‘deal with coastal issues’ was a primary goal. State coastal programs and the federal Sea Grant program each contributed to building state capacity. Many of the states, in turn, opted to develop coastal programs that would invite the participation of local governments in developing local coastal plans (LCPs), thereby building local capacity to manage coastal issues.

On capacity-building

A brief explanation of the term ‘capacity-building’ is called for. According to May and Williams (1986), “(w)e think of capacity in terms of ability to reach a goal, as reflected by available resources, and by political, managerial, and technical competence”(28). This statement is reflected in the goal orientation of the EPA’s definition of capacity, of ‘establishing resources’ such as technical tools, legal authority, support services (Environmental Protection Agency website, full citation in references). A definition offered by a U.S. resource management agency situates capacity-building

internationally, “(c)apacity building includes establishing and strengthening human resource and international capabilities for coastal management, science, training and education” (National Marine Fisheries Services website, full citation in references). While all of these sources address a central feature of capacity-building, namely the provision of the necessary resources or tools to accomplish the goal toward which capacity is being built, they fail to address capacity-building as a dynamic reciprocal learning process, even though the term itself infers a value added process. These elements are captured in a study of providers of capacity-building services, which finds that an emphasis on process leads to innovative and adaptive learning for both participants and providers, and an understanding that capacity-building takes time (Fine, 2002; Pigg and Bradshaw, 2003). Further, different historical and social contexts contribute to the development of relative strengths and weaknesses in an institutional environment that enable or impede capacity to manage (Norris-Raynbird, 2005). A definition that is both comprehensive and concise in capturing the issues from the literatures that concern this study follows:

Capacity building is a process that involves value added instruction, the training of trainers, activities with multiplier effects, and networking. It involves both institutional capacity-building and human capacity-building. It ensures the creation of an enabling environment with appropriate policy and legal frameworks; institutional development, including community participation; and human resources development and strengthening of managerial systems.

- Strategic Alliance for Freshwater Information, Resources and Education
(full citation in references)

A focus on local government

Capacity-building has been strongly linked to effective policy implementation (Bardach, 1977; Gargan, 1981; May, 1986; King and Olson, 1988; Burby and May, 1997; Hershman et al., 1999). Because most federal and state policies eventually arrive at the doorstep of local ‘street level bureaucrats’ (Mazmanian and Sabatier, 1983), it is recognized that local implementers can make or break federal or state policy effectiveness (Gargan, 1981; Clary, 1985; May, 1986; Deyle and Smith, 1989; Burby and Paterson, 1993; Burby and May, 1997; Lindell, 1997; Prater and Lindell, 2000; Tuler, et al., 2002; Pirie, Loe and Kreutzwiser, 2004; Nerbonne and Nelson, 2004). As

a result, many studies and articles have focused on the local level of government in examining, for instance, hazard mitigation and disaster policy implementation (Godshalk, Brower and Beatley, 1989; Witt, 1988; Beatley, 1986; May and Williams, 1986; Rossi, Wright, Weber-Burdin, 1982; May, 1993; Prater and Lindell, 2000) or mitigation through land use planning (Catanese, 1974; Fischer, 1985; Jennings, 1989; Dalton, 1989; Deyle and Smith, 1989; Burby and May, 1997; Pirie, et al., 2004).

While some areas of local governance have enjoyed frequent and varied investigation, some others have not. Tuler et al. (2002) comment that although the importance of local government has been widely recognized in the environmental policy literature, there have been few studies on policy making and implementation situated at the local government level – exceptions of note were on water quality planning (Plumlee, Starling and Kramer, 1985) and nuclear waste disposal (Herzik and Mushkatel, 1992). Similarly, while there have been some investigations specifically in the coastal zone directed at local land use decisions (Sabatier, 1977; McCreary, et al., 1992), only a few have examined programmatic participation by local governments (Witt, 1988; Tuler, et al., 2002).

The Coastal Zone Management Act (1972) is considered exemplary of environmental laws enacted because it specifically emphasizes the importance of integrated state and local planning (May, 1986; Burby and May 1997). As early as 1977, calls for expanded criteria by which to evaluate the federal Coastal Zone Management program through a thorough examination of state programs noted the failure of studies to examine such things as the process of permit decision making, policy implementation, or achieving resource objectives (Englander, Feldmann, and Hershman, 1977; Ditton, et al., 1977; Mazmanian and Sabatier, 1983; Berke, 1983; Lowry, 1985). In 1988, King and Olson observed that state roles in coastal resource management were increasingly important, but that a systematic investigation of state capacity to manage was needed. Beatley, Brower, and Schwab (1994) similarly noted the importance of state programs in the effectiveness of the CZMA, but that the flexibility afforded states in developing their own programs made evaluations very

difficult. Many studies have assessed how well federal and state CZM programs have achieved their objectives using perceptual and physical outcome measures (Born and Miller, 1988; Brower, 1991; Godschalk, 1992; Good, 1994; Knecht, Cicin-Sain, and Fisk, 1996, 1997; Sorenson, 1997; Bernd-Cohen and Gordon, 1999). McGehee (1999) examined Gulf states' implementation of CZMA policies as they applied to coastal erosion and gathered perceptions of the process. The National Coastal Zone Effectiveness Study from 1995 – 1997 (Hershman, Good, Bernd-Cohen, Goodwin, and Pogue, 1999), included the processes of policy implementation but featured program outcomes in each of the approved state CZM programs. State level respondents in the study perceived the CZM program to be effective in increasing capacity to manage at the state and local government levels, stressing the importance of networking, state-local partnerships, discretionary funds, and consistency reviews. Despite these perceptions, building capacity at the local government level was a critical theme during the Coastal Zone Management Act reauthorization hearings in 1999 and 2000 (U.S. GPO, 2002; 2000). Local capacity-building was a frequent platform on which requests for designated funds were made. In a visionary prescription for ocean management, the U.S. Commission on Ocean Policy (2004) found that the nation had failed to effectively manage the impacts of human activity and recommended a new ecosystem-based approach that included a “coordinated national ocean policy framework to improve decision making” and “lifelong ocean education to create well-informed citizens with a strong stewardship ethic” (5). A specific recommendation was to reauthorize the Coastal Zone Management Act to “strengthen the management capabilities of coastal states” (15) and to provide for management by watershed boundary rather than political boundaries. The new approach recognized that some of the most critical issues are of regional or local concern and “their resolution requires the active involvement of state and local policy makers”(8) and the participation of concerned stakeholders.

‘Facilitating features’ and a framework for capacity-building

The integration of state and local planning suggests a coherency between state and local policy, and sufficient capacity in both state and local governments to successfully accomplish the implementation process. According to Mazmanian and Sabatier (1983), successful implementation of policy was conditional on: enabling legislation with clear and concise goals, sound theoretical foundation, a process structured to enable successful implementation, managers with technical and political skills who are committed to the goals of the policy, constituency support, and goals that will not be eroded by changing socioeconomic conditions (see also Lowry, 1985; McGehee, 1999). In assessing how well these conditions fit the case of CZMA implementation, Lowry (1985) found that while CZMA neither met the condition of clear goals, nor had a specific causal theory, it had nevertheless enjoyed considerable implementation success.

A difficulty with the conditions as proposed by Mazmanian and Sabatier (1983), was that they failed to account for hierarchal relations between different levels of government (Prater and Lindell, 2000). In examining federal mandates on risk reduction to earthquake hazards, May and Williams (1986) addressed differentials in power, resources, and capabilities between levels of government, which had been previously overlooked. The problem of shared governance made difficult the prospect of getting local governments to commit to state or federal goals and states to commit to federal goals. The general theme of Mazmanian and Sabatier’s implementation conditions and the problem of shared governance were carried forward into May’s (1993) development of a ‘facilitating features’ variable in examining the implementation of mitigation policy and land use mandates related to risk. Of the condition of statutory goal clarity and consistency, May concluded that it was of varied import and that in comparison to other conditions had less influence on implementation. The explicit structuring of a process that facilitated local commitment and local capacity-building (‘facilitating features’), however, was very influential on state effort toward policy implementation, as was the provision of ‘carrots and sticks’ tools of persuasion also called ‘mandate controls’ (see

also Burby and May, 1997 and Prater and Lindell, 2000, on land use planning and mitigation).

May's concept of 'facilitating features' corroborated a growing understanding in the literature on capacity-building as this related to policy implementation in general. In a theoretical treatise, Honadle (1981) developed a framework for capacity-building aimed at all levels of government that included: anticipating and influencing change, making informed policy decisions, creating programs that facilitate policy implementation, procuring, managing and disseminating funds, and evaluating programmatic activities to make adjustments and provide feedback. Many activities within the framework were similar to May's 'facilitating features' and particularly appropriate for the local level. Ulrich and Lake (1990) explored corporate capacity and suggested that developing capacity meant that training should occur over a variety of experiences that would build knowledge, skills and alliances, that would in turn lead to networking and partnerships. In analyzing federal educational policy, Timar (1994) recommended that capacity-building activities occur at the 'locus of change', that is, where implementation takes place.

In their work on common pool resources and sustainable management, Becker and Ostrom (1995) noted the benefits of what they called 'nested enterprises', one of Ostrom's common pool resource design principles. An example of a nested enterprise would be an LCP in the parish government structure. Additionally, an LCP by virtue of its programmatic association would be considered nested within the Louisiana Department of Natural Resources coastal management program. Becker and Ostrom (1995) suggested that as a product of layering, nested enterprises benefited from problem-solving coherencies that could address a broad range of problems. Further, layering and interconnectedness of nested enterprises provided more opportunities for adaptation throughout the organizational structure that enhanced capacities to deal with complex problems from a complex and interconnected world (Dolšak and Ostrom, 2003). The concept of nested enterprises compliments May's 'facilitating features' in

working toward integrated problem-solving and coherent management through the building of layered capacity.

Issues of commitment

Researchers have noted that capacity and commitment are intertwined, and the relationship between the two, is complex (Bardach, 1977; Honadle, 1981; May, 1986, May, 1993; Burby and May, 1997). In the five-state study of mandate design in land use planning (May, 1993; Burby and May, 1997), the combined effects of capacity and commitment on implementation were found to be far stronger than the singular effects of either one, but capacity alone was the weaker indicator of implementation effort. And there were different kinds of commitment to be considered: calculated commitment (compliance based on a cost/benefit values), associational commitment (attachment based on affective values), and normative commitment (belief in goals based on internalized norms). Kanter (1968) referred to these as cognitive continuance, cathetic cohesion, and evaluative control respectively, and Lawler and Yoon (1993) called them instrumental, affective and normative. May (1993) posited that calculated commitment would be fostered in coercive situations and that capacity would not be a strong effect. Conversely, normative commitment with high levels of capacity would likely foster an integrated and collaborative implementation process (see also Burby and May, 1997).

Difficulties with commitment to common goals in shared governance have been well documented. Whether in urban planning (Cantanese, 1974; Bolan, 1991), mitigation through land use planning (Lindell, 1997; Burby and May, 1997; May and Deyle, 1998), coastal management (Ditton, et al., 1977; Beatley, Brower and Schwab, 1994), coastal storm hazard mitigation (Beatley, 1986; Deyle and Smith, 1989), disaster management (May and Williams, 1986), environmental regulation compliance (Burby and Paterson, 1993), or estuary management (Tuler, et al., 2002), local governments have not appreciated interference from state and federal authorities, and disagreements have frequently led to coercive regulation and further contentiousness. Cost inefficiencies have occurred when time and valuable resources have been tied up in bureaucratic game

playing (Bardach, 1977), in local governments avoiding compliance with state environmental regulations (Burby and Paterson, 1993), and in the misuse of FEMA grant monies in local emergency management (Lindell, 1997). Competing demands on resources within and between government layers has also hindered cooperation (Burby and May, 1997).

Because the participation of local governments in the implementation was critical and fraught with difficulties, a shift occurred toward collaborative approaches that invite programmatic participation (Kanter, 1989; Timar, 1994; Burby and May, 1997; Tuler et al., 2002; Swanson and Brown, 2003; Pirie, et al., 2004). In the collaborative approach local, state and federal governments share the commitment to address problems in a local area (Burby and May, 1997). Whether or not local governments accept the invitation for collaboration has been found to hinge on several factors: 1) local governments have to see the physical problems as local, 2) the problem must have high public salience, 3) solutions must be do-able and cost effective, 4) local officials have to be committed to resolving the problem, 5) local government must have the capacity to address the problem, 6) community must have the capacity to support the solution, 7) a comprehensive plan should be in place, and 8) there should be a top down mandate from fed and state governments (Lindell, 1997; see also Burby and May, 1997). These factors are consistent with the aggregated factor types that Tuler et al. (2002) put forward in their study of the participation of local governments in the National Estuary Program, namely, 'socio-political context' and 'process design'. To these, Tuler et al. added another factor type, namely 'character of individuals', which was comprised of personal values, past experiences, and perceived time allocations. This factor typology is salient to the research at hand because it is an excellent organizational tool with which to capture the dynamics of programmatic participation. Further, it provides the conceptual underpinnings of potential transition from the more inflexible 'top down' programmatic mandates to community-based policy of which Pigg and Bradshaw (2003) speak. Community-based policy invites local participation through capacity enhancing opportunities tailored to the unique characteristics and needs of each community

Socio-political context

Keeping in mind the Burby and May (1997) list of factors for local government participation, we know from previous research that the enticement of voluntary participation in the pursuit of common goals requires that the overall goals are perceived as relevant and of high value to the potential participant (Lofland, 1976; Obershall, 1980; Klandermans and Tarrow, 1988). Lofland (1976) suggests that organizations employ various strategies in attracting membership, such as ‘issue-raising tactics’ where information and goals are presented in a way that is situationally salient. Here, frames theory is particularly useful. Goffman (1986) put forward the idea that people understand their everyday world, that is, all of those things around them, through a cognitive mechanism that filters, interprets, attaches meaning, and remembers a myriad of cues. This mechanism, organizes experiences and guides individual and collective action (Snow, Rochford, Worden, and Benford, 1986; Klandermans, 1992). When people are presented with a problem they identify or ‘diagnose’ it taking into consideration past experiences, situational cues, and any information presented to them that shapes meaning and our interpretation. An ‘issue-raising tactic’ will influence how a problem is diagnosed, and offer a ‘prognosis’ of solutions with a strategy for achieving them. To complete the strategy, a call for a specific action is made (Snow, et al., 1986; Snow and Benford, 1988; Klandermans, 1992; Benford, 1993; Krogman, 1995; Snow and Cress, 2000). To make issues salient and immediate, framers link them to an issue of significant public concern or a widely held value (Prater and Lindell, 2000). The framing process, by way of ideology and/or value position, becomes political when individuals interpret a situation and collectively act to address it (Dietz, et al., 1989; Snow and Cress, 2000; Selfa, 2004). Framing strategies then, create political cleavages and effectively alter power relations (Dietz, et al. 1989; Benford, 1992), through the identification of a problem, the identification of antagonists contributing to the problem (Snow and Benford, 1988; Benford, 1992; Krogman, 1995), and the subsequent call to action.

Character of individual

In the Tuler et al.(2002) typology, ‘character of individual’ includes personal values, past experiences and perception of time allocations. Ideological factors (values, beliefs, meanings, norms) inform the multiple realities held by individuals and the frames they construct to interpret the world around them (Berger and Luckman, 1967; Goffman, (1986). Because frames originate within the individual and reflect past experiences, they are useful in understanding how the same information or situational cues can be framed differently by different individuals (Snow and Benford, 1988; Benford, 1993). Framing is a repeating process with a shifting dynamic that constantly takes in new information and carries past information forward into new frames (Goffman, 1986; Snow, Rochford, Worden and Benford, 1986). Competing frames are filtered by past experience to ascertain which meanings are most salient (Snow and Benford, 1988).

People commit to things based on their perceptions of how worthwhile their efforts are to actions aimed at achieving a common goal, while taking into consideration other commitments that may be more efficacious (Klandermans and Tarrow, 1988; Martinez and McMullin, 2004). In weighing factors associated with commitments, the perceived amount of time needed for an activity and the perceived time available for allocation will also be considered (Tuler, et al., 2002). As Snow and Benford (1988) note, each of the factors considered will be framed by present information and past experience. The information afforded by past experience and the processing of present information derives from individual preferences, attitudes and behavior. These concepts are discussed under the subheading: ‘mobilizing local participation’.

Process design

‘Process design’ refers to the organization or in Bardach’s (1977) terminology ‘assembly’ of all the elements that work toward achieving a goal – in this application, program or mandate implementation. While it is similar to Mays (1993) ‘mandate design’, there is more of an emphasis on the cognitive and social aspects of an organizational plan that accommodates. According to Tuler et al. (2002), the greatest

flexibility to influence change, occurs in the ‘process design’ where there are opportunities to illustrate intergovernmental interest in unique community characteristics and local concerns, and invite local programmatic participation. It is in the process design that factors of participation come together within a specific socio-political context. Customized or location-specific design has the advantage of capturing both local and agency knowledge pertaining to the unique characteristics of a community or ecosystem (May, 1986; Bolan, 1991; Lindell, 1997; Burby and May, 1997; Tuler, et al., 2002). As Tuler et al. suggest, the accommodation of idiosyncrasies in people, in place and in context, makes the invitation for participation more genuine in tone, and the influence at the ‘locus of change’ more possible. The mechanics of accommodation are reminiscent of May’s ‘facilitating features’. Process design also addresses the triple-pronged problem of which Honadle (1981) speaks, namely that 1) one size does not fit all, that is, there is no one approach that is generalizable to all organizations or organizational situations, 2) that ‘capacity-building’ is a process – no framework or approach can confer instantaneous capacity, and 3) it is not likely that consensus on what capacity exactly means will ever be reached, precisely because by the very nature of the process, it is an adaptive phenomenon. Although Tuler et al. do not specifically mention the adaptive potential of process design, the presence of an adaptive phenomenon that is incremental and additive in a process-oriented design has been captured in different applications of complex organization literature (Honadle, 1981; May 1986; Bolan, 1991; Thomas, 1994; Lindell, 1997; Norris-Raynbird, 2004). Process design then, has the potential to facilitate building the kind of capacity that transcends the combined subjective (local sentiment) and instrumental (scientific or technocratic) rationalities, in an innovative and adaptive learning process that Bolan (1991) calls ‘adaptive rationality’.⁴ It is the mobilization of the subjective and instrumental resources that leads to adaptive rationality (Bolan, 1991), and it is in the process design that cognitive, economic, political, technological and natural resources can come together in the, as Tuler et al. phrase it, ‘invitation’ for programmatic participation by local governments.

⁴ See also Turner and Killian, 1957, on emergent collective action being rational and adaptive

Mobilizing local participation

Evidenced by the provision of funding and capacity-building opportunities (legitimization, leadership development, rule-making and conferred authority), federal and state governments have come to recognize local participation as a resource to be mobilized to effect policy implementation (Nerbonne and Nelson, 2004). However, the identification of local participation as a resource and the general provision of other resources to build capacity and mobilize those resources toward policy implementation, are in and of themselves insufficient motivators for local governments to accept invitations to participate (Burby and May, 1997). This echoes the limitation of resource mobilization theory (Oberschall, 1973; McCarthy and Zald, 1977) to account for participatory action on the logic of utility alone (Fireman and Gamson, 1979; Klandermans, 1984; Klandermans and Tarrow, 1988; Snow and Benford, 1988; Dietz et al 1989; Benford, 1993; May 1993). The identification of a goal (i.e. increased autonomy of local governments) or problem (i.e. limited 'say' in local matters) shared in common, is also by itself an insufficient motivator for people to engage collectively (McCarthy and Zald, 1977; Freeman, 1983). Fireman and Gamson (1979) suggest that motivation to act collectively toward a common goal or benefit involves several conditions: 1) benefits from acting collectively should be in accord with 'constituents principles', 2) there should be opportunity and means to act collectively, and 3) participants should perceive it necessary to act collectively to get the benefit. Organizing these conditions a little differently, Klandermans and Tarrow (1988) provide an overview of both structural and interactional factors that have been found to contribute to collective action, namely, political opportunity, organization, costs and benefits, and expectations of success.

Favorable political conditions such as constituency support (Eisinger, 1973; Fireman and Gamson, 1979; Mazmanian and Sabatier, 1983; Marx and McAdam, 1994), precipitating event, crisis or structural strain (Smelser, 1967; Freeman, 1983; Turner and Killian, 1987; Marx and McAdam, 1994), as well as the more recent creation of mobilization opportunities through legislation or governmental mandate (Tarrow, 1994; Canel, 1997) have been found to contribute to collective action. Organizational

characteristics such as existing organizational structure (Lofland, 1976; Morris, 1984; Burby and Paterson, 1993; Marx and McAdam, 1994), existing network of 'potential recruits' (Oberschall, 1973, 1980; Ferree and Miller, 1985; Klandermans and Tarrow, 1988), and having a network of people linked by similar cultural experiences, beliefs and values, or by formal organizational ideology (McCarthy and Zald, 1977; Snow, Zurcher, Ekland-Olson, 1980; Snow and Benford, 1988), all contribute to efficiencies in the effort toward mobilization. Linking these concepts to structure, Dolšák and Ostrom (2003) address macro structural efficiencies, commenting that the layering of society is established through constitutional rules that provide for 'lower level institutions' and 'collective choice'.

While the above discussion is helpful in understanding what factors are favorable to collective action, they fail to address the difficulty that participation by an individual in collective action is unnecessary for the individual to benefit from collective goods (public goods and resource goods) because they cannot easily be withheld from non-participants [Olson, (1965) 1971; Hardin, 1977; Klandermans, 1984; Hechter, 1987; Ostrom, 1989; Sell and Son, 1997). This also means that participants bear the immediate costs of benefits that are realized by participants and non-participants alike. Translated to this study, it is the problem of attracting the participation of local governments in programs where there are immediate and known costs, but where collective goods benefits are diffuse and difficult to quantify (Deyle and Smith, 1989; Fischer, 1998; Lindell and Prater, 2000).

Olson ([1965] 1971) suggested that no rational individual would participate in costs for which benefits were non-exclusive, and therefore selective incentives or coercion would be necessary to motivate participation toward a collective good. These ideas were incorporated into resource mobilization theories as the foundation of rational collective action. The dominance of this structural focus however, obscured attention to social conditions and the idea that both social and non-social incentives can be effective in motivating individuals toward collective action (Carden, 1978; Oberschall, 1980; Klandermans, 1984).

Largely because resource mobilization ‘glossed’ over ideological considerations (Klandermans, 1984; Snow and Benford, 1988), ideas of different kinds of social incentives and their import to individuals within a group emerged such as: ideological goals that are of high value to individuals (Oberschall, 1980), individual identification with ideology (Carden, 1978), self-respect and group solidarity (Gamson and Fireman, 1979), and pride in status of the group, shared values and connection with the group and respect shown by the group to the individual and their work (Tyler and Blader, 2000). Some of these were additive to rational choice theory. A social incentive that fit within the domain of rational choice theory was probability of success (Oberschall, 1980; Klandermans, 1984), found to be influenced by the number of individuals participating. The idea of a critical mass of participants was linked to risk thresholds (Granovetter, 1978; McAdam, 1986), and shared ideology thresholds (Benford, 1993).

Noting that while social and nonsocial effects on behavior at the group level may be appropriate for indicating trends, they may also be misrepresentative of that relationship at the individual level (Fishbein and Ajzen, 1972; Granovetter, 1978; Hechter, 1987; Ajzen, 1991; Marx and McAdam, 1994), many studies turned their foci to the individual and rational choice. The relationship between attitude and behavior (Fishbein and Ajzen, 1972) and situational effects on attitude/behavior (Ajzen, 1991) were explored. Granovetter (1972) examined thresholds of action based on the risk perceptions of individuals. The significance of outcome expectations of individuals on their behavior was explored with Kahneman and Tversky (1986), showing that individuals perceived the prospect of losses differently than they do the prospect of gain when options with the same bottom line outcome were expressed differentially.

The finding of different perceptions of what is rationally the same thing illustrates a fault in rational choice (expected utility) theory that because it is market-based, does not account for perceptual differences of the same cost outcome. This relates to the differential valuation problem to which Harper (2001) points regarding resource values. Whether wetlands are thought of as a public good preserve, a resource good ecosystem, or a market good property, changes the perception of its value in relation to

the associated costs.⁵ In their study examining perceptual differences between public goods and resource goods, Sell and Son (1997) find that subjects are initially more amenable to restraint from taking (loss or cost associated with resource goods) than they are to having to pay (as associated with public good maintenance). Although the costs are commensurate, loss or withholding is not as negatively perceived as having to contribute. The perceptual differences however, diminish with group interaction and where participants learn of changes to the resource. The same phenomenon has been observed in prisoner's dilemma games, where repeated interaction fosters cooperation and trust (Granovetter, 1985; Putnam, 1993). What facilitates cooperation are social networks and norms, through and around which interaction occurs and trust is built. Putnam (1993) refers to these organizational features and mutual benefits that follow from them as 'social capital'. Social capital can be thought of as "...a resource whose supply increases rather decreases through use and which...becomes depleted if *not* used (Putnam, 1993:38 - emphasis in original).

In thinking of networks as hubs of interaction, it is necessary to recognize that some networks are small and intimate (dense), and others are large and less intimately connected (loose).⁶ While dense networks with strong ties foster intimacy between homogenous individuals and groups, these do not provide the bridges between separate networks. Separate networks connected by 'weak ties' (Granovetter, 1973) foster the building and transfer of social capital that provide for the expansion of mutual benefit beyond single networks. Flora and Flora (2005) note the importance of lateral learning to networks – "communities learn best from each other"(219), while at the same time recognizing that a balanced combination of bonding social capital (strong ties) and bridging social capital (weak ties) are necessary to promote and sustain what they call 'entrepreneurial social infrastructure'. This underscores the importance of interaction to

⁵ See Ostrom, 1989; Becker and Ostrom, 1995; Dolšák and Ostrom, 2003 on public/private goods rights, differential value and resource management decisions. Dolšák and Ostrom (2003) liken resource management agencies to public corporations in that no one person or party has exclusive or private property rights over public and resource goods, and there must be complex institutional provisions to make the kind of decisions that have broad and long-lasting effect on a multiplicity of disparate stakeholders.

⁶ These terms are reminiscent of Durkheim's 'mechanical' and 'organic' solidarity; Tönnies 'gemeinschaft' and 'gesellschaft'.

the process of local decision-making and the relevance of bridging and bonding social capital to process design.

The focus on interaction leads back to the interplay between human thought, human activity, and the physical environment (Dietz et al., 1989; Freudenberg and Gramling, 1995), and how through the interpretation of symbolic cues, talk, behaviors, and the surrounding environment, meaning is constructed (Goffman, 1986). As Sell and Son (1997) find with public and resource goods, the dynamic of changing situational factors changes cost-action decisions. To use framing terminology, new information changes the construction of the frame, so that frames are at all times subject to reassessment and renegotiation (Snow, Rockford, Worden, and Benford, 1986).

As noted by previous research, exposure to a specific role over time influences the adoption of values and ideology of that role (Berger and Luckman, 1967; Dietz and Rycroft, 1987; Dietz, Stern, and Rycroft, 1989; Lindell, 1997). If as Berger and Luckman suggest, individuals are inducted into specific areas of knowledge associated with the roles they play, then we would expect local government officials and more particularly, local administrators who have a local coastal program in place and who actively implement programmatic policy, to exhibit ideology consistent with the ideology of a regulator frame. And if, as some models for capacity-building suggest, the local coastal program process imbues capacity to manage in keeping with state agency mandates, this would reinforce the expectation of regulator framing in local government officials and administrators who have developed local coastal plans.

In her study of wetlands permitting in Louisiana, Krogman (1995; 1996) establishes a typology of Regulators, Regulated and Environmental/Concerned Citizen groups. Shoring up this typology is the work of Dietz and Rycroft (1987) and Dietz, Stern, and Rycroft (1989) on 'regulators' – individuals actively involved in the implementation of environmental risk policy system in the United States. Using this previous work as a foundation, Krogman expands the respondent base to survey government, industry/business and citizens involved in some way with the permitting process.

In my study, I have used only the ‘regulator’ and ‘regulated’ frames. This is primarily because in southern rural Louisiana there is a heavy reliance on resource dependent economic production. The resistance to regulation is general knowledge in Louisiana. This is not to say that there would not be some representation of environmentalist ideology, nor is it to say that there are no other frames in existence. The inclusion of other frames however would not strengthen the research but rather, would muddy it considerably. This is because for many themes, the differentiation between the frame of say, a regulator and the frame of an environmentalist is not one of substance but of degree. The differentiation is quite clear, however, between the regulator and the regulated in both degree and substance (Dietz and Rycroft, 1987; Krogman, 1995; 1996). Examples of ideology from the ‘regulator’ frame include: permit applicants circumvent the system through political connections; permit applicants fail to ‘do their homework’; regulation is necessary to protect resources in a market economy (Krogman, 1995). Additional ideological themes are taken from the state agency (LaDNR) about the virtues of LCPs. These include: LCPs ensure that local interests are considered; LCPs make the mitigation efforts more efficient (Louisiana Department of Natural Resources website – full citation in references). Examples of ‘regulated’ frame include: regulations are obstructionist; use decisions should be made on market basis; private landownership rights and ‘trickledown’ economics should prevail; permitting process is unnecessarily complicated; solutions to conflict are more important than understanding the complexities of environmental issues (Krogman, 1995).

Bringing the literature together within the context of this study

The main area of focus is capacity-building – how it is described in the literature, organizational characteristics contributing to it, and models of building capacity in different settings. In these models, and to varying degrees, the interplay of structure and social construction can be seen. Within the literature of sociology, aspects of collective behavior and the mobilization of groups toward programmatic participation aimed at

capacity-building have been featured. The social construction literature presented has focused on social interaction and the shaping of individual characteristics. These characteristics (attitudes, beliefs, values, norms) and the past experiences that have informed these, shape the framing used by individuals to interpret the environment around them. An individual's attitudes, beliefs, values and norms have been shown to be relevant to their actions, and therefore framing has been shown to be relevant to the act of capacity-building.

The theories and concepts presented in this section cleave to a macro structural paradigm or to a micro interaction paradigm. They are sufficiently separated in unit of analysis, scope, theoretical lineage and perspective to be called rival theories, that is, theories that attempt to explain the same social phenomena from opposite perspectives. The use of rival theories serves as a foundation for data analysis in the chapters that follow.

CHAPTER III

METHODS OF DATA COLLECTION AND ANALYSIS

Drawing from the literature

From the literature review, a cleavage can be identified between research based on resource mobilization theory (a structural paradigm) and research based on social interaction (a social construction paradigm). In the previous chapter, an allusion to this cleavage was made regarding May's 'mandate design' and Tuler's 'process design'. Recall that 'mandate design' emphasized the building of resources and thereby capacity in more of a hierarchal approach. Tuler et al. focused on the social process of accommodation and communication exchange and thereby capacity. Resource mobilization theory and social interaction theory provided the foundation for a case-based examination of why different local governments (parishes) have experienced different levels of local coastal program development given the same opportunities and incentives by the state. These distinct theoretical lines facilitated an avenue of investigation particularly suited to the study, namely, rival theory comparison (Yin, 1994).

In the rival theory approach, the explanations that each theory offers, are compared against the data collected. In addition to individual level analysis, a profile (or case) of every coastal parish in Louisiana was built from layers of individual and parish data from multiple sources, in keeping with Yin's explanatory case design (1993;1994). The layered data and the use of both individual and aggregate units of analysis facilitated the comparison of a structural theory to an interactional theory.

The explanatory case design accommodates four tests for validity and reliability in empirical research (Yin,1994). The rival theory comparison and the matching of data to explanations offered by the theories facilitate internal validity. Internal validity is important to establish in the examination of causal relationships (Yin, 1993, 1994; Trochim, 2002), namely, factors influencing LCP development.

The replication of analysis over multiple parish cases creates a research domain within which the findings are generalizable. This procedure addresses two issues with this study regarding external validity. First, even at the individual level, the analysis of survey data as a standalone procedure may not adequately represent the population. Second, a single case study could not address the variation of the parishes. However, because a research domain of all coastal parishes in Louisiana was established, the findings demonstrate the importance of the theory within that domain and as applicable to data parameters. In this way, analytical significance is accomplished thus meeting the test for external validity.

Construct validity is addressed with the use of multiple data sources. A mail out survey of parish public officials provided individual level data and aggregate parish level data. Census data provided demographic information at the parish level. In-person interviews of professional LCP administrators (or ‘Parish CZM administrator’) provided parish level information on historical background, program development, inter-parish relations, inter-government relations, intra-parish operations, and local culture. An array of other sources including archival, media and government websites also contributed to parish level data. Fieldnotes from state LCP meetings and information available on the Department of Natural Resources website provided general coastal information and programmatic background.

With regard to reliability, the research protocol features well-defined methods of data collection and the creation of two databases – one at the parish level and one at the individual respondent level. The survey instrument used several items to measure the same concepts and the field interview protocol relied on an interview guide to maintain interview consistency. Reliability can sometimes be compromised during a lengthy period of data collection if significant change occurs within the respondent domain. In this study, examples of ‘significant change’ would have included such things as parish council and CZM panel administrative changes, CZM staffing changes, approval for pending LCPs, and major natural or technological events. During the time of the data collection, there were no significant changes in the parish scenarios or the population of

respondents. Reliability is further promoted by the comparability of the study's findings to those of similar investigations.

In summary, the use of both quantitative and qualitative methods in data gathering and analysis complimented rival theory comparison in the explanatory case design and also facilitated the effort to quantitatively test frames theory and capacity-building – in particular the adoption of 'regulator' framing and the appropriateness of using frames theory in examining capacity-building. At the same time, a broader aim was to generate richer and more rounded theoretical contributions (Glazer and Strauss, 1967) through the enhancing character of qualitative data. Hopefully, the relative strengths and weaknesses of resource mobilization theory and social construction theory in explaining programmatic implementation and capacity-building are made clearer by this research. With regard to frames theory, it is hoped that this research contributes to a broader understanding of the theory in general and deeper appreciation of its usefulness in specific applications.

Interview and sample

The purpose of the interview part of this study was to gather information on parish background with CZM issues, cultural sentiment, the formal and informal operational sides of the LCP program, and get the professional perspectives of LCP administrators. It was in this phase of data gathering that less quantifiable aspects of the 'design process' were gathered. These aspects included discussion on the relationship of the parish to DNR within the context of the LCP program, as well as capturing perceptions of the program and its meaning to each coastal parish.

The target sample for the in-person interview part of the research included administrators of parish LCPs and those identified from the Louisiana Department of Natural Resources website as 'CZM parish contact'. Originally all nineteen parishes were to be contacted, however, the devastation of hurricanes Katrina and Rita (2005) eliminated access to several of the parishes. While this reduced this particular component, interview representation was evenly distributed among coastal adjacent parishes and inland parishes, and among LCP, non-LCP and pending parishes. With

broad representation and the availability of other data layers, reliability of the overall design was preserved. In all, eleven (11) individuals were contacted for in-person interviews (5 from LCP parishes, 5 from non-LCP parishes and 1 from pending LCP parish). In addition, an individual charged with LCP direct oversight from the Louisiana Department of Natural Resources was interviewed for program historical background and state perspectives on programmatic participation of coastal parishes.

Interview format

For the nineteen parish level in-person interviews a guided semi-structured interview technique was used (Rubin and Rubin, 1995). An interviewer guide ⁷ of ten open-ended questions was developed to capture roughly the same information as the survey. This was also more conducive to recording field notes where audio recording was ruled out.

For the single interview of the state employee with DNR, many of the same questions as on the interviewer guide were used. This interview was more conversational however, to provide for respondent-led data within the general guidelines of the topic area but at a much broader state level perspective.

Approval for this research included the opportunity to audio-record the in-person interviews. Taped interviews are preferred because these facilitate much greater detail in data, or what Geertz (1988) calls ‘thick’ data.

Audiotapes were transcribed and content analysis performed (Glaser and Strauss, 1967; Kirby and McKenna, 1989; Strauss and Corbin, 1997). Themes that emerged were presented in narrative form and emergent categories from coded data were presented in quantified format such as frequency tables and percentages.

Field observations

A total of three (3) meetings were observed. One was a parish LCP meeting and another was a parish council meeting. The third meeting was a LCP programmatic meeting hosted quarterly by the Louisiana Department of Natural Resources in Baton Rouge.

⁷ Research materials such as contact correspondence, human subjects consent forms, interviewer guide, and survey formats are provided in the Appendix section.

For this meeting, representatives of the Federal CZM program were in attendance, conducting a program audit. Field notes were taken for all meetings and later coded according to emergent categories following in the tradition of Emerson, Fretz and Shaw (1995).

Web-based search

Data for the parish level analysis were found on several government websites including the US Census Bureau, Louisiana Department of Natural Resources, Environmental Protection Agency's Toxic Release Inventory, National Oceanic and Atmospheric Administration (NOAA) Coastal Zone Management (CZM).

Survey target population

The target was the entire population of elected and/or appointed individuals in each parish who are parish LCP decision-makers, or in cases where no LCP is in place, parish council/police jury members and administrators whose responsibility domain included decisions on CZM matters and LCP program development. All coastal parishes with approved local coastal plans, and those awaiting approval, were contacted in order to obtain information on LCP decision-makers which included the elected parish council or police jury members, appointed members of any LCP commission or panel who made recommendations to the parish council or jury, and hired CZM/LCP staff. For the remainder of coastal parishes, contact information was obtained for members of the police jury or parish council from the Louisiana Parish Police Jury or Council website. Contact information for members of LCP panels or commissions was obtained through contacting parish government offices. In all but one case, this information was readily supplied. Information for the individual/s designated as a contact for coastal zone management issues in the parish was found on the Louisiana Department of Natural Resources website. A population of 254 individuals from 19 coastal parishes was contacted to participate in the survey. Survey return was thirty-three percent (33%), totaling 84 individual responses. All parishes were represented, although the percentage

of representation varied from fifty percent (50%) to ten percent (10%). The total number of CZM staff in the sample was small, but the ratios over all groups of respondents (police jury/council, advisory panel, and CZM staff) were comparable.

As Table 1 indicates, respondents were predominately male. Over half of the respondents had some college education, with twenty-three percent (23%) holding a four-year degree and twenty-five percent (25%) holding a graduate or professional degree. Fifty-seven percent (57%) of respondents were advisory panel members, twenty-nine percent (29%) were parish council/police jury members, and fourteen percent (14%) were parish staff. The average length of time respondents from LCP parishes had been personally involved with the program was 6 years (N = 46).

Table 1. Selected characteristics of survey respondents

	Highest Level of Education Completed				
Gender	h/s or GED	2yr assoc or equiv college	4 yr college degree	grad/prof degree	totals
Male	31	7	17	17	72
Female	2	2	2	4	10
	Respondent Type				
Gender	parish staff	parish council/jury	advisory panel	totals	
Male	8	43	22	73	
Female	3	5	2	10	

Survey instrument

A mail-out survey was chosen for its efficiencies in financial cost and time on the part of the researcher, time efficiencies that would be realized by the respondents, and for its appropriateness regarding the methods of analysis. It was anticipated that at least two mail outs would be necessary to achieve a high response rate. Further, to encourage

participation of panel, jury or council members, a letter to parish presidents explaining the nature and importance of the research was mailed out one week before the first mail out of surveys. After three weeks, a reminder card was mailed that also advised of the upcoming second survey mail out. The second survey mail out followed a week later.

The survey brochure was designed to be attractive and easy to read – elements to encourage response. Two versions of the survey were designed on the basis of parishes with or without an LCP. This allowed for questions applicable to all parishes and then questions appropriate for parishes with or without LCPs respectively. A tri-panel format cleanly facilitated multi-item scaled questions, demographic questions, open-ended responses, and was accommodated in a #10 envelope with a cover letter and stamped return envelope. The cover letter contained all the elements required to obtain informed consent and detailed the purpose of the research. The surveys carried a discreet code at the bottom of the left inside panel to identify the parish.

The survey was organized so that all individuals were asked demographic questions, questions about their involvement with coastal zone issues and activities, and their general perception of the value of the Local Coastal Program to their parish. Following this were 14 five-point Likert-style questions to establish the level of agreement with statements associated with specific frames derived from previous research (Krogman, 1995), and framing associated with the Department of Natural Resources website promoting LCPs. Next were rating questions on perceived physical and economic vulnerabilities of the parish to several hazard and types of loss resulting from hazards. All respondents were then asked to rate the perceived capacity of parish government in specified functions.

Questions pertaining specifically to respondents from parishes not participating in the Local Coastal Program or who do not have an approved or pending LCP, included perceptions of constituency support for the Local Coastal Program, perception of whether or not coastal issues might be addressed differently if the parish had an LCP, and whether or not respondents thought that having an LCP would give their parish ‘a

say' in coastal issues. They were then asked to rate issues based on their perceptions of how challenging these issues are to LCP program participation.

Questions designed specifically for respondents from parishes with an approved or pending LCP in place, focused on challenges encountered in forming the LCP. These questions called for a short description from the respondent of the challenges so as to allow for a full range of descriptives. The respondent was asked about their tenure with the LCP and asked to indicate on a simple three-point measure, their perceptions of state and local relations across a list of five items. Following this, respondents were asked what they think about the general effectiveness of their LCP, and possible improvements in parish capabilities as a result of having an LCP. An insert was also provided with all surveys to accommodate respondent comment. Here and in other areas of open-ended questions, responses were coded following content analysis keywords and themes. To assure design appropriateness and clarity, the survey was pre-tested in the study area outside of the target population.

Dependent variable

There were two dependent variables, Local Coastal Program (LCP) development and frame identification (Table 2). LCP development in coastal zone parishes was used as a proxy for capacity-building at the local level (parish). It was used as a dependent variable when looking at factors such as the economic base of a parish and resource dependent occupations of respondents. It was measured in two ways. First, it was coded as a binary dummy variable according to whether or not the parish has an LCP program, coded as 1 = yes and 0 = no. If a parish had a pending LCP, this counted as 'yes'. The second measure is ordinal with four categories of development: No LCP, Pending LCP, New LCP >2 yr, and Mature LCP > 5yrs, and coded 0 – 4 respectively. 'Level of development' was considered a more appropriate measure of LCP status than age of LCP because one older LCP had been inactive for several years. Also, a pending LCP had been in the application process for a few years but its LCP age would have been '0'.

Another dependent variable was frame identification. Theory holds that by association, parish officials with developed LCPs will take on the roles and the framing

Table 2. Description of variables

VARIABLE	DESCRIPTION	DISTRIBUTION/MEANS	
Dependent			
Local Coastal Program (LCP) development N = 84	No LCP		31.0%
	Pending LCP		7.1%
	New LCP < 5yrs		23.8%
	Mature LCP		38.1%
Frame identification N = 80	Index score 8 – 40	Mean:	26.16
		S.D.:	4.801
Control			
Gender N = 84	Male		88.0%
	Female		12.0%
Education completed N = 84	High school		0%
	High school/GED		40.2%
	2yr Assoc./equiv. College		11.0%
	4yr college		23.2%
	PhD/professional degree		25.6%
Average parish property values N = 19	Continuous	Mean:	\$85,805
	range: \$ 59,600 – 123,900	S.D.:	15787.25
Average household income N = 19	Continuous	Mean:	\$35,059
	range: \$27,133 – 47,883	S.D.:	5508.70
Independent			
Occupation N = 84	i) Not resource related (i.e. teacher, doctor, real estate, accountant, grocer)		48.8%
	Resource related (i.e. oil workers, harvesters, O&G sales, coastal engineering)		51.2%
	ii) Socioeconomic index	Mean:	60.67
	range 30 – 87	S.D.:	13.04
LCP development N = 84	see ‘dependent’ variable description		
Respondent type N = 84	Staff		14.3%
	Council/jury		57.1%
	Advisory panel		28.6%
Population density/sq mile N = 19	Continuous	Mean:	317.44
	range: 7.6 – 2684.3	S.D.:	656.50
O&G presence in parish N = 19	Ranked Index	Mean:	3573.42
		S.D.:	5795.60
	Number of refineries range: 0 - 3	Mean:	.58
		S.D.:	1.02
	Number of LA Chem facilities range: 0 - 13	Mean:	1.89
		S.D.:	3.45
	Number of TRI facilities	Mean:	8.53
		S.D.:	8.00
	Onsite pounds released	Mean:	3149018
		S.D.:	5289954.62

of the regulating agency. The scale was constructed using twelve Likert statements on the survey instrument that represented regulator framing or regulated framing (see Appendix section).

Control variables

External ‘development incentives’ and ‘opportunity’ were variables that because they were the same for all parishes were already controlled and therefore, had been excluded from analysis. ‘Developmental incentives’ included available funding from state or federal sources for parish plan development, assistance with document development, program presentations, and web-site development. ‘Opportunity’ referred to the invitation to participate in the LCP program extended to all coastal parishes by the State of Louisiana.

Individual level control variables considered for inclusion in the analysis were: gender, age, and education. Gender has been found to have some effect on environmental attitudes and behavior (Zelezny, Chua, and Aldrich, 2000). However, in the analysis phase, gender was not used as a control variable because there were only 10 respondents who were female and the effect was not measurable. This was not due to an under-representation in the sample, but due to the fact that there were very few women in the population of CZM local decision makers.

Age too, was a variable that had been linked to environmental attitudes and behavior (Dietz, Stern and Rycroft, 1989). Age was measured in years on the survey, but because many respondents left this question blank, this variable was dropped from analysis. Education was identified as a control variable because education is associated with occupation. Further, college graduates and white-collar workers are more likely to hold pro-environment attitudes and beliefs (Dunlap and Mertig, 1992). Education was an ordinal variable with five categories: 1 = less than high school; 2 = high school/GED diploma; 3 = 2 yr associate degree or equivalent yrs college; 4 = 4 yr college degree; and 5 = PhD/Professional degree.

Parish level control variables selected were average parish property values and average parish income. Average parish property value was controlled because of its potential relationship to population density in disparate ways: the effects of urbanization and property values in a few parishes on one hand, and the proliferation of vacation camps in some parishes on the other. Average parish income was controlled because its relationship to resource dependent occupations specifically oil and gas.

Independent explanatory variables

Occupation was measured as an open-ended question and then coded resource dependent or not (coded 1 = yes; 0 = no). Resource dependent was defined as wage/salary directly derived from natural resource-related industry. As examples, resource related included harvesters, oil workers, chemical plant or production facility workers, O&G sales and support services, environmental engineers, marine industries, and tourism. Non-resource related included teacher, grocer, doctor, accountant, real estate sales and developers. The tests were: 1) directness of relationship between occupation and natural resource, and 2) transferability of occupation out of coastal region. The rationale for the dichotomous measure was the potential for influence on LCP development given the direct association of resource dependent occupations to regulated resources and the regulatory function of local coastal programs.

Occupation was also recoded according to the Socioeconomic Index (Nakao and Treas, 1992)⁸, and examined as a possible influence on framing. While this measure has been criticized as biased toward income and as an unsatisfactory measure of women's occupations (Hauser and Warren, 1997), these issues were not anticipated as being relationally problematic given the application and the fact that there were few women respondents in the population of council/jury, panel or CZM staff respondents. Social economic status has been found to be of significant influence in social science research

⁸ This version of the SEI is a recently updated version of Duncan's 1961 SEI. The index was constructed from the 1989 National Opinions Research Council (NORC) Occupational Prestige Scores and several measures from the 1980 Census. The index has been expanded to include 503 occupational categories.

and it was anticipated that this factor as defined by the SEI would have some influence on frame identification.

LCP development was used as an independent variable (see under heading *Dependent variables* for description of measure and coding), when examining its potential effect on frame identification. As suggested by social construction literature, the rationale for using this measure as an independent variable was the expectancy that the level of development of an LCP would influence frames adoption through the process of programmatic participation and association. Similarly respondent type (council/jury, panel or CZM staff) was an independent variable based on the logic of exposure to the regulator role through program administration.

With greater population density comes the expectation of more government structure, more resources and diversified skills that may influence the development of an LCP. This is in keeping with resource mobilization theory. Therefore, population density was used as an independent variable at the parish level.

Initially, economic base was to have been an independent variable. However, a review of the (NAIC) Economic Census 2002, revealed limited data available at the parish level. Another variable was developed in its stead. Given Louisiana's long economic history with oil and gas, coupled with the strong presence of this industry and related chemical industry in coastal parishes, oil and gas presence became another variable expected to influence LCP development. This was measured by an index of physical facilities per parish using 2003 as a base year. An index was used because a raw totaling of different kinds of facilities could have misrepresented the comparative economic importance of this sector across parishes. By example, a parish may have hundreds of wells, but no refinery or chemical plant. But having a refinery and a couple of chemical plants might far outweigh the hundreds of wells in economic importance. A common index was needed to represent the combined relative importance of facility categories.

The index was calculated from the number of wells per parish, the number of refineries per parish, and number of member chemical plants in LA Chemical

Association by parish. Totals were then tallied and parishes ranked for each. These rankings were tallied across parishes and parish totals were then ranked to create an ordinal dummy variable 'O&G presence by parish'. For the purposes of this research, this was thought to be a better indicator of the economic importance of oil and gas activity to a parish than say, oil production numbers (in barrels) or royalties. Production can vary per well and between wells, and this may or may not affect number of jobs. Royalties bypass the parish and go directly to the state and federal governments.

Hypotheses

In keeping with the literature review and methods, I propose the following hypotheses:

'Regulator' frame identification hypotheses and LCP development (capacity):

H1 – Respondents from parishes with older, active LCPs will exhibit higher levels of agreement to 'regulator' framing than will respondents from other parishes.

H2 – Respondents from parishes with newer or pending LCPs will exhibit 'mixed' framing.

H3 – Respondents from parishes with no LCP will exhibit lower levels of 'regulator' agreement than will respondents from other parishes.

H4 – Administrators of CZM policy (staff) are more likely than other types of respondents to exhibit high *regulator* frame agreement.

N = 84

Dependent variable: frame identification H1: dichotomous – regulator = 1, not regulator = 0

H2: dichotomous – mixed frame = 1, not mixed = 0

H3: dichotomous – regulated = 1, not regulated = 0

Independent variable: level of LCP development (ordinal data).

respondent type (ordinal data)

Occupation factor hypothesis in frames identification:

H1 – There is a positive relationship between 'regulator' framing and occupational prestige.

H2 – There is a negative relationship between ‘regulator’ framing and resource dependent occupations of respondents

N = 84

Dependent variable: framing – dichotomous (regulated or not)

Independent variable: H1: occupation - SEI scale

H2: occupation – dichotomous (resource dependent or not)

Issue framing and salience factors hypothesis in development of LCP:

H1 – There is a negative relationship between resource dependent occupations of respondents and development of an LCP.

N = 84

Dependent variable: development of LCP – dichotomous

Independent variable: occupation – dichotomous (resource dependent or not)

Demographic factors hypotheses (at parish level):

H1 – There is a positive relationship between population density in a parish and development of an LCP.

H2 – There is a negative relationship between Oil and Gas presence in a parish and development of an LCP.

N = 19

Dependent variable: development of LCP – dichotomous (LCP or not)

Independent variables: H1: pop dens parish – continuous/ratio

H2: oil & gas presence parish – ranked index variable comprised
of: number of wells by parish
number of refineries by parish
number of member chemical companies
in LA Chemical Association by parish

In the following chapter, I test the hypotheses detailed above by analyzing the individual and parish level data derived from the survey instrument.

CHAPTER IV

HYPOTHESES TESTING

In this chapter I test my hypotheses through analyzing the questionnaire results. Recall that the questionnaire was distributed to those individuals involved in the decision-making process for coastal zone management in coastal parishes. In parishes with local coastal programs, this included the parish council or police jury, an advisory panel where one was in place, and parish staff employed to implement coastal zone policy and permit regulations. In parishes without a local coastal program, parish council members or police jurors and parish staff whose job responsibilities included coastal zone management were included.

Individual level data analysis:

Framing and LCP development

With LCP development as a proxy for capacity-building, and working from theoretical underpinnings from the literature, the expectation was that capacity would be imbued from the Department of Natural Resources commensurate with the development of a LCP. It was hypothesized that the level of development of a LCP would influence framing. To examine this, a scale was created from the data to measure regulator framing.

The scale was constructed from among twelve Likert statements on the survey instrument that represented either *regulator* framing or regulated framing. Response values (ranging from 1 – strongly disagree to 5 – strongly agree) were tallied for each statement across all respondents. Recall from Chapter II that the differences in both degree and substance between the *regulator* frame and the regulated frame have been previously demonstrated in the literature. With these differences, it was reasonable to expect that high *regulator* frame agreement would be demonstrated with low agreement levels on regulated frame items. Conversely, low *regulator* frame agreement would be demonstrated by high agreement levels on regulated frame items. The five statements

representing regulated frame were therefore reverse coded to align directionally with *regulator* framing.

To assess reliability of the scale, Cronbach alphas were obtained for each statement and using the item deleted option, statements that weakened the overall alpha value of the scale were eliminated. This elimination process continued until a sufficiently robust alpha was achieved⁹ indicating the scale's reliability. Four models produced robust alphas (Model I - 12 statements – alpha .6552; Model II – 8 statements – alpha .7107; Model III – 7 statements – alpha .7183; and Model IV – 6 statements – alpha .7118). Overall, the statements reflecting *regulator* framing had greater between item variance than did the response values to statements reflecting 'regulated' framing. Decreased between-item homogeneity suggests that the items positively associated with *regulator* framing were not quite as reliable as those positively associated with regulated framing. The scale selected was Model II. While this model did not have the highest alpha value, the differences between it and the other alpha values were minimal and the scale retained a greater number of both regulated and *regulator* frames statements.

Because of missing data on a few items, the mean of other item responses from respondent was inserted in place of missing data. Scores across the eight items were then tallied creating a variable for respondent framing. Higher scores indicated greater agreement with the *regulator* frame, and lower scores indicated greater agreement with the regulated frame. As a rough estimate, ranges for the frames were established as:

- 'regulator' frame agreement: scores of 28 to 40 (Likert score 3.5 – 5 over 8 items)
- mixed frame agreement: scores of 20 to 27 (Likert score 2.5 – 3.4 over 8 items)
- 'regulated' frame agreement: scores of 8 to 19 (Likert score 1 – 2.4 over 8 items).

Regulator frame development and LCP development

These hypotheses focus on institutional capacity, which in this study is represented by the level of LCP development, and its possible relationship to the *regulator* frame. Recall that *regulator* is defined within the context of this study as an individual actively

⁹ See Appendix section for item statements, item delete alphas and model summaries),

involved in the implementation of policy and regulations in the management of activities in the coastal zone, specifically in use issues of local concern. The *regulator frame* is defined for the purposes of this study as the perspective reflecting the ideology of the regulatory agency (in this case LA Department of Natural Resources – Coastal Management Division) charged with the oversight and implementation of policy and regulations in the management of coastal zone activities, specifically regarding use issues of local concern. As such, it is the primary indicator in this study of capacity as defined by the presence and degree of agency ideology.

Recall that LCP status had several categories: No LCP, Pending LCP, new LCP and mature LCP. Controlling for education, a Univariate ANOVA (Table 3) was conducted for LCP status and the dependent variable frame tally to determine whether LCP categories were significantly related to frame. The ANOVA demonstrates that LCP status does make a difference in respondent frame, and that this difference was

Table 3. General linear model comparison of means for respondent frame tally grouped LCP status

N=80 Tested: Frame Tally	Group statistics				Univariate Analysis of Variance		
	LCPstat	N	Mean	SD	Mean Square	F	Sig
	No LCP	25	23.68	3.934	134.889	4.213	.008
	Pending	6	26.83	5.529			
	New<5yr	19	28.68	4.989			
	Mature 5yr+	30	26.50	4.424			
	Total	80	26.16	4.801			

significant at the 99% confidence level. The mean increases from one category to the next until the last one – mature 5yr, where the mean scale scores slightly declined. Still, an overall positive direction was maintained (that is, the mean in the last status category is still higher than the mean in the first category of ‘no LCP’). Bonferroni post hoc tests

followed with the results in Table 4. The Bonferroni test uses paired t-tests to compare the means of grouped pairs in a categorical variable. The significance obtained for each comparison is adjusted to the overall error rate. Comparing the categories with LCP status, the most significant difference in means occurs between the ‘new <5yr’ status and ‘no LCP status. This is the area of greatest change in means – where the influence of

Table 4. Post-hoc Bonferroni test of differences in means of respondent frame between grouped pairs within LCP status

N = 80	LCP status (I)	LCP status (J)	Mean Diff (I-J)	Sig.
Tested: Frame Tally	no LCP	pending	-2.97	.713
		new <5yr	-4.44*	.005
		Mature 5yr+	-2.04	.461
	pending	no LCP	2.97	.713
		new <5yr	-1.47	1.000
		mature 5yr+	.93	1.000
	new <5yr	no LCP	4.44*	.005
		pending	1.47	1.000
		mature 5yr+	2.40	.309
	mature 5yr+	no LCP	2.04	.461
		pending	-.93	1.000
		new <5yr	-2.40	.309

LCP status exerts the most influence on respondent frame. Table 4 will be used to reflect upon the hypothesis tests below.

The first hypothesis tested the relationship between the LCP status and framing, with specific focus on older LCPs. The logic for the hypothesis was that if, according to the literature, *regulator* ideology was internalized as a result of interaction and exposure, it was reasonable to expect that longer association with the policy and regulations of the State LCP program would enhance the adoption of *regulator* frame, and that such adoption might occur by degree over time. To test the respondent frame hypotheses, LCP status was dichotomized by categories of statuses; first, as mature LCP or other, and a one-way ANOVA for dependent variable frame tally was conducted.

H_1 : Respondents from parishes with older, active LCPs will exhibit higher levels of agreement to *regulator* framing than will other respondents.

Results indicated that respondents from parishes with a mature LCP were no more likely to exhibit *regulator* frame agreement than other respondents. A comparison of means between the two groups showed very little statistical difference. Both means fell in the higher end of the mixed frame range. The influence of a mature LCP (5 years old or older) had a F-value of .235 and was not statistically significant at .629. No support was found for this hypothesis.

Following the same logic of length of association with *regulator* ideology and assumptions regarding the internalization process, the next hypothesis tested linked newer and pending LCPs to mixed framing. Initially these two categories were collapsed due to the limited number of cases in the pending category, but because each category showed distinct characteristics, they were tested separately under H_{2a} and H_{2b} respectively. Newer LCPs were defined as those that had received approval less than five years ago. The variable for LCP status was dichotomized into newer LCP or not and a one-way ANOVA was conducted.

H_{2a} : Respondents from parishes with newer LCPs will exhibit mixed framing.

Table 5. Comparison of means for respondent frame grouped by ‘newer < 5yrs ‘ LCP status

N = 80 Tested: frame tally	Group Statistics				One-way ANOVA		
	LCPstat	N	Mean	SD	F	Mean Diff	Sig.
	newer	19	28.68	4.989	7.435	3.30	.008
other	61	25.38	4.499				
Mean Square between groups = 158.454					Mean square within groups = 21.313		

As can be seen from Table 5, the F-value, the between groups mean square value and the level of significance showed a strong and statistically significant difference between ‘newer LCP’ and ‘other’ LCP statuses. However, respondents from parishes with a newer LCP were not more likely to exhibit mixed framing. Instead they were more likely to exhibit *regulator* frames agreement. The mean for the newer LCP group was well above the range for mixed framing (20 to 27) and into the range of *regulator* framing. Even though the analysis of these variables was statistically significant at the .01 level, H_{2a} was not supported.

LCP status was next dichotomized into pending or other to test for any influence on frames agreement and a one-way ANOVA was conducted.

H_{2b} : Respondents from parishes with a pending LCP will exhibit mixed framing.

A small F-value (.125) and statistical insignificance of .724 indicated that there was little if any influence of ‘pending’ status of a LCP on frames agreement. Further, the means of both pending and not pending groups of the framing variable fell within the mixed frame range. The respondents from the parish with a pending LCP were no more or less likely than other respondents to exhibit mixed frames agreement. So while respondents associated with pending status exhibited mixed framing, the finding was not statistically significant and H_{2b} was therefore not supported.

Last in this series of hypotheses, the absence of capacity was introduced. This hypothesis focused on the relationship between the absence of LCP development and regulated framing. The tested variable was again respondent frame tally grouped by LCP status, which was dichotomized into No LCP or other.

In this ANOVA (Table 6), a large F-value, a large between groups mean square value and very small significance value, indicated a strong and statistically significant influence of the no LCP status on the dependent framing variable. The difference in means was substantial. While the mean for the no LCP group was not sufficiently low to place it within the regulated frame agreement range (8 – 19), the tendency toward the lower end of the scale, that is, toward regulated framing was demonstrated. Thus, not

having a LCP influenced frames agreement downward into the lower mixed frames range, and H_3 was supported.

H_3 : Respondents from parishes with no LCP will exhibit the lower levels of agreement with *regulator* frame than will respondents from other parishes.

Table 6. Analysis of variance for respondent frame grouped by ‘No LCP’ status

N = 80 Tested: Frame tally	Group Statistics				One-way ANOVA		
	LCPstat	N	Mean	SD	F	Mean Diff	Sig
	no LCP	25	23.68	3.934	10.947	-3.61	.001
	other	55	27.29	4.764			
Between groups mean square = 224.102					Within groups mean square = 20.472		

To better visualize the overall relationship between frames agreement and LCP status, crosstabulations were run for LCP status and respondent framing. The tallied frame variable was transformed into a categorical variable using the cut points previously identified (regulated frame – scores of 8 to 19; mixed frame – scores of 20 to 27; regulator frame – scores of 28 to 40).

Table 7. Crosstabulations for LCP status and respondent frame category

N = 80 Respondent Frame Category	LCP status				Total
	no LCP	pending	new (<5yr active)	mature (5yr+ active)	
Regulated frame % within LCP status	5 20.0%		1 5.3%	1 3.3%	7 8.7%
Mixed frame % within LCP status	17 68.0%	3 50.0%	6 31.6%	18 60.0%	44 55.0%
Regulator % within LCP status	3 12.0%	3 50.0%	12 63.1%	11 36.7%	29 36.3%
Total	25	6	19	30	80

As indicated in Table 7, there were only 7 respondents who exhibited regulated frames agreement and most were from parishes with no LCP. The greatest majority (44 respondents or 55%) exhibited mixed frames agreement and of these, about 80% were almost equally split between ‘no LCP’ and ‘Mature LCP’ statuses. The only LCP status category that had more respondents exhibiting *regulator* frames agreement than any other frame was the new LCP (< 5yrs old).

The peak for *regulator* framing when examined from the relationship of frames agreement and LCP status has been illustrated in the graph below (Figure 3) of the means of tallied respondent framing by LCP status category. Note that in no LCP status category did the mean of respondent frame tallies fall below the mixed frame range ($\bar{x} = 20$).

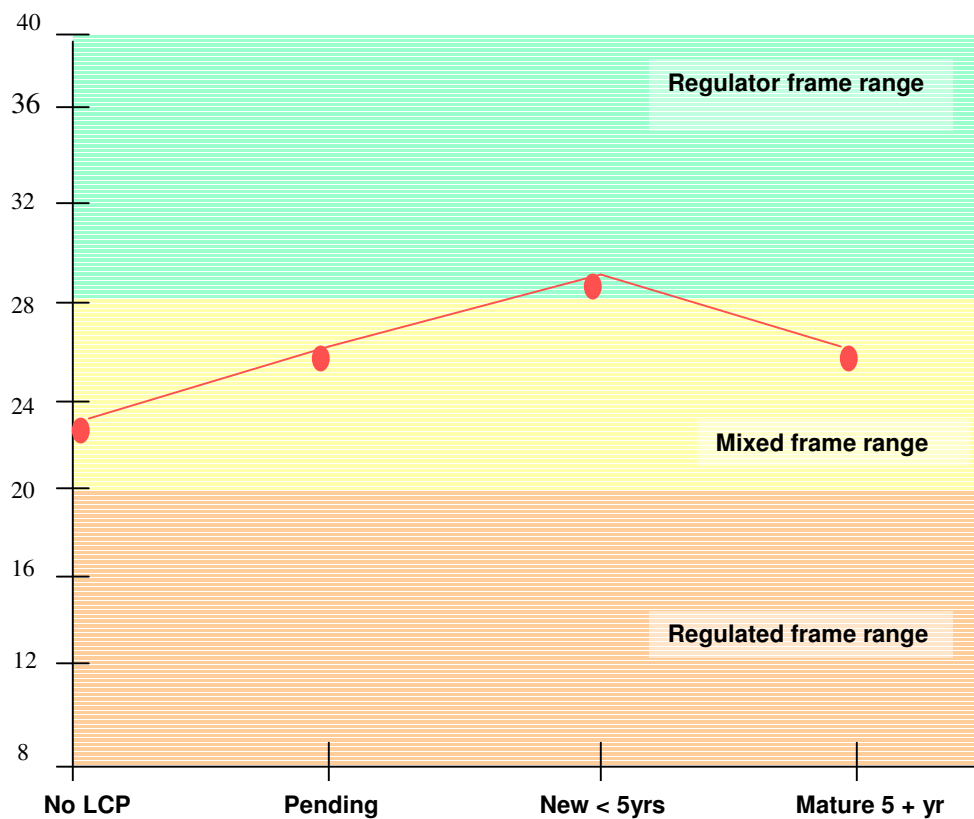


Figure 3. Line graph of the mean of respondent frames tallies by LCP status category

Regulator frame development and respondent characteristics

A second line of inquiry was explored as a result of the findings from the previous hypotheses and from trends illustrated in the crosstabulations. As Figure 3 depicts, while frame means increased in relation to the development of a LCP, the means peaked at the new LCP status and thereafter fell back to a means level consistent with pending LCP status. This called for consideration of other factors that could affect framing and by extension, institutional capacity-building as defined by *regulator* frame adoption.

One path worth examination and available in the data centered on the respondent type. There were three categories of respondents: ‘staff’ (administrators of CZM /LCP policy/regulations), ‘council/jury’ (parish government charged with decisions relating to CZM policy and where applicable LCPs), and ‘panel’ (advisory panel members charged with making CZM and/or LCP recommendations to parish government). Recalling from the literature that exposure to the *regulator* role would cause *regulator* ideology to be internalized, the expectation was to find higher concentrations of *regulator* range scores among administrators of LCP and/or CZM policy. These individuals applied LCP policy and permitting regulations on a day-to-day basis. It was hypothesized that individuals who applied LCP policy and permitting regulations on a daily basis would have internalized the ideology and framing of the policy-generating and regulation-promulgating agency, and therefore exhibit high levels of *regulator* frame agreement.

H₄ – Administrators of CZM policy (staff) are more likely than other types of respondents to exhibit high *regulator* frame agreement.

To analyze the effects of respondent type on framing, a univariate analysis of variance was performed first with tallied respondent frame scores as the tested variable and respondent type as the grouping variable, with education controlled. The results of the analysis are presented in Table 8 below.

Table 8. Univariate analysis of variance of respondent frame type

N=80 Tested: Frame Tally	Group statistics				Univariate Analysis of Variance		
	respondent type	N	Mean	SD	Mean Square	F	Sig
	staff	11	26.64	5.464	100.041	5.861	.004
	council/ jury	45	24.87	4.372			
	panel	24	28.38	4.595			
	total	80	26.16	4.801			

The analysis demonstrated that respondent frame type has a statistically significant influence on respondent frame at the .01 level. The mean for panel respondents fell within *regulator* frame range. The mean for council/jury respondents was lowest among types, and fell in the middle of the mixed frame range, while the mean for staff members fell at the higher end of the mixed frame range toward *regulator* agreement.

Next a Bonferroni post-hoc test was conducted to compare the between groups means. As the results in Table 9 show, the greatest difference in means occurred

Table 9. Post-hoc Bonferroni test of differences in means of respondent frame between grouped pairs within respondent type

N = 80 Tested: Frame Tally	Respondent Type (I)	Respondent type (J)	Mean Diff (I-J)	Sig.
	staff	council/jury panel	1.04 -2.53	1.000 .298
	council/jury	staff panel	-1.04 -3.57*	1.000 .003
	panel	staff council/jury	1.51 3.57*	.298 .003

between council/jury respondents and panel respondents, and this was statistically significant at the 99% confidence level. Comparing the within group mean of staff with the within group means of council/jury and panel respondents, the difference was negligible and statistically non-significant. Any discernable difference was attributable to random error.

To compare the between group means of staff with the other groups combined, a one-way ANOVA was conducted of dichotomized respondent type (staff and other). The F-value was very small (.123) and statistically insignificant ($p = .727$). This suggests that any minimal influence from being a 'staff' respondent on frames agreement was likely due to chance. There were only 11 respondents who were categorized as 'staff', but additionally, there was also the negligible difference in the means between 'staff' respondents and other respondents (difference in means = .55). With these results, the Null hypothesis failed to be rejected meaning that respondents who were 'staff' were neither more nor less likely than other respondent types to demonstrate *regulator* frame agreement.

That a relationship between *regulator* frames agreement and staff administrators of policy was not supported was contrary to expectation. There were a total of 29 respondents whose tallied frame scores were in the *regulator* range. A broader analysis was needed to test the influence of respondent types other than staff on respondent framing.

A one-way ANOVA test was conducted next for council/jury respondents. The analysis summarized in Table 10 shows that council/jury respondents had a lower mean for respondent frame tally than did the other group of combined panel and staff respondents. The strength of the influence of the council/jury grouping on the frame tally mean was seen in the large F-value (8.174) and statistical significance of .005. The findings show that council or police jury respondents were less likely than other types of respondents to demonstrate *regulator* frame agreement.

Table 10. Comparison of means for respondent frame grouped by council/jury

N = 80 Tested: frame tally	Group Statistics				One-way ANOVA		
	Respondent type	N	Mean	SD	F	Mean Diff	Sig
	Council/Jury	45	24.87	4.372	8.174	-2.96	.005
	other	35	27.84	4.872			
Between group mean square = 172.716				Within group mean square = 21.130			

The ANOVA test for respondent frame grouped by panel or other shows a strong association that was statistically significant at the .01 level (Table 11). Respondents who were advisory panel members had a group mean of tallied responses considerably higher than that of the comparison group of combined council/jury and staff respondents, indicating that this type of respondent was more likely than the others to demonstrate *regulator* frame agreement.

Table 11. Comparison of means for respondent frame grouped by panel

N = 80 Tested: frame	Group Statistics				One-way ANOVA		
	Respondent type tally	N	Mean	SD	F	Mean	Sig
						Diff	
panel	24	28.38	4.595	7.919	3.16	.006	
other	56	25.21	4.607				
Between groups Mean Square = 167.834				Within groups Mean Square = 21.193			

The next two hypotheses on framing focused on the association between occupation and frames identification. The first of these examined frames identification and respondent socioeconomic index scores (SEIs) associated with respondent occupations. Socioeconomic status has been found to influence ideology on environment and resource use, so there was an expectation that respondents with higher SEI scores would favor *regulator* ideology because regulated management would be interpreted as

The OLS regression results show that there is a positive relationship between SEI and regulator frame scores, and that this relationship is statistically significant at the 95% confidence level. SEI explains about 4% of the variance (the Adjusted R^2 is .04) in respondent frame tally.

The second hypothesis on frames identification and occupation focused on whether or not respondent's occupation was resource related or not. Because regulation had been shown to influence frames identification (Krogman, 1995), it was reasoned that if one's occupation were dependent on a resource, the regulation of that resource would be of concern and therefore influence framing. Two sources of information were combined into the coding of resource related or not: respondent occupation and the description of job duties. Occupations directly and peripherally resource related, including marine occupations and O&G support services were coded resource related.

H_6 – There is a negative relationship between *regulator* framing and resource dependent occupations of respondents.

A one-way ANOVA was conducted for respondent frame grouped by resource dependent occupation or not. The results of the test showed little difference in the means between the two groups (resource-related = 25.98 as compared to not resource related = 26.36). The F-value was .126 at a significance of $p = .724$. While the means for respondents whose occupations were not resource related was slightly higher (toward regulator framing range), any effect from resource related occupations on respondent framing was not statistically significant. There was a high probability (72%) that any difference between the two groups (resource dependent or not) as indicated by the means was attributable to random error. The hypothesis that there was a negative relationship between *regulator* framing and resource dependent occupations of respondents was therefore not supported.

Resource dependent occupations and LCP development

The final hypothesis to be tested at the individual level concerned the relationship between respondent occupation (resource dependent or not) and the development of an LCP. Because a negative relationship between resource dependent occupations and *regulator* frame agreement had been expected, the same logic led to the expectation that there would be a negative relationship between resource dependent occupations and development of an LCP.

H₇ – There is a negative relationship between resource dependent occupations and development of an LCP.

Of interest in this analysis, were resource dependent occupations as related to whether or not a parish had a LCP. Crosstabulations were conducted for LCP status as a binary dependent variable (No LCP or other) and resource dependent occupation or not as the independent variable. Because this was a two by two table, Fisher's exact test was used with a 1-sided significance of .151. There was no support for the hypothesis that there was a negative relationship between resource dependent occupations and presence of an LCP. Those respondents who had resource dependent occupations were no more or less likely to be associated with No LCP than they were with other LCP development statuses.

Parish level data analysis:

Combining the data from the questionnaire with data derived from government and industry websites (i.e. U.S. Census, EPA Toxic Release Inventory, Louisiana Independent Oil Producers Association and Louisiana Oil and Gas Association), a second data set was constructed for parish level analysis. Local Coastal Program development was again the focus in the final two hypotheses that examined selected demographic and economic factors.

LCP development and demographic factors

Hypotheses tested at the parish level (N=19) focused on population density and the oil and gas presence in a parish as factors that might influence local coastal program development. In parishes where there is sparse population, competition for natural resources is less, and management of coastal activities may not be viewed by local government as a pressing local concern. Further, resource mobilization theory stresses the importance of having access to human and economic resources in order to organize around a central goal, in this case, a programmatic goal. Similarly, policy implementation literature points to the advantages to programmatic participation of having administrative infrastructure and resources in place. Sparsely populated parishes typically have fewer resources and may be less able to organize and manage a local coastal program. Those parishes with higher population density may perceive a greater need to manage resources and have the infrastructure and administrative resources in place to enable organization and management of a local coastal program.

H_8 – There is a positive relationship between population density in a parish and development of an LCP.

With ‘population density’ as the independent variable and the dichotomous ‘presence of an LCP’ as the dependent variable a partial correlation was conducted to assess the presence of a relationship controlling for parish average household income and parish average property value. The correlation coefficient was .4471 with a significance of .072, indicating that there was some correlation between these two variables. A regression was conducted next, even though for this analysis level there were only 19 cases. Because the sample was so small, Ordinary Least Squares was used. This was because the small sample size would in effect render irrelevant the statistical differences of the linear assumptions of OLS, as compared to the non-linear assumptions of logistic regression. In the first model, a negative Beta was obtained for average property value (-.286) and this variable was highly correlated ($r = .742$) with average household income. A second model was run without this variable. Controlling for average household income, the Beta obtained for population density was .379 at a significance of

.088. The regression did not support a relationship of statistical significance between population density and LCP development at the 95% confidence level. However, the significance level is small for such a small sample and statistically significant at .10. On the basis of the correlation and regression results, the Null hypothesis was rejected at the 90% confidence level.

LCP development and parish level economic factors concerning oil and gas

The next hypothesis to be tested focused on the potential influence of levels of oil and gas presence in a parish on LCP development. Because it is commonly known that the oil and gas industry exerts a tremendous effort against regulatory legislation, it was expected that parishes with a higher presence of oil and gas industry might be influenced away from participation in a local coastal program. All coastal parishes were found to have oil and gas activities.

H₉ – There is a negative relationship between oil and gas presence in a parish and development of an LCP.

Economic measures of oil and gas activities were not consistently available at the parish level, so a table¹⁰ was created for oil and gas presence, which included three measures: number of oil wells, number of refineries, number of LA Chemical Association member facilities. The combined measure provides a crude but measurable representation of oil and gas industry significance to the parish. It was recognized however, that the measures were greatly disparate, that is to say, that an oil well was not comparable to a chemical facility or a refinery over a broad array of economic, social and political factors. A ranking system was devised so that the three measures could be compared. Each parish was ranked in each of the three measures. The rankings were totaled for each parish, creating a ranked scale. The parish with the most O&G presence was ranked '1', the parish with the second most O&G presence was ranked '2' and so on. To make sure the scale consistently represented the parishes across the three measures, a bar

¹⁰ O&G table of frequencies and rankings, and comparison bar graphs are provided in the Appendix section.

graph was constructed comparing the mean of tallied rankings grouped by LCP or no LCP. The bar for 'LCP' was much lower reflecting the lowest mean. This meant that more parishes with a LCP had ranked 1st, 2nd, 3rd, and so forth as having more O&G presence. This bar graph was then compared to bar graphs of the means of the raw count data from the individual measures. The graph showing the means of the ranked scale was opposite to the graphs using the tallied means of frequency data, indicating the consistency of the ranked means measure with the raw frequency or count data.

The hypothesis that there was a negative relationship between oil and gas presence in a parish and the development of a LCP was then tested using the ranked scale variable and comparing the means grouped by LCP or no LCP. The mean for the LCP group was lower than that of the No LCP group (lower rank indicates greater O&G presence). Significance (2 –tailed) of .161 with the t-value of –1.465 was obtained in an independent T-test, indicating an inverse relationship. Statistical significance at the 95% confidence level was not obtained.

Comparison of means tests were separately conducted for number of oil and gas wells, number of refineries and number of chemical plants – all grouped by LCP or no LCP. The results with those of the rank scale variable, and an alternate measure using TRI data discussed below are summarized in Table 13.¹¹

As an alternate measure, the number of facilities listed for each parish from the Environmental Protection Agency's Toxic Release Inventory (TRI) database was tested, again using an independent T-test where the grouping variable was LCP or no LCP. This measure had not been used as the primary measure because it included manufacturing and storage facilities that were predominantly but not exclusively related to oil and gas production or O& G related chemical plants. The pattern was similar to the previous measures, that is, LCP parishes had a higher mean number of facilities than did the parishes without a LCP. The results however, were not statistically significant.

¹¹ The same general relational pattern held through the series of analysis. That is, the mean differences demonstrated a greater presence of O&G activities in parishes that had a LCP. No test was statistically significant at the 95% confidence level, however, number of refineries was significant at .10 (2-tailed).

The last variable in this series was also from the TRI dataset, namely, pounds released on site per parish. The results from the independent T-test, also included in Table 13, supported the pattern of higher mean pounds of on site releases for LCP parishes than parishes without a LCP. The t-value was 2.166 and statistically significant ($p = .045$).

Table 13. Comparison of means of several measures of oil and gas presence in coastal parishes grouped by LCP development

N = 19	Group Statistics				Independent Samples T-Test		
	LCP Devel	N	Mean	SD	t	Mean Diff	Sig (2 – tailed)
	Tested: Ranked scale of O&G						
	LCP	11	17.45	6.77	-1.465	-4.05	.161
	no LCP	8	21.50	4.50			
Tested: Number oil and gas wells	LCP	11	4770.91	7298.11	1.060	2844.03	.304
	no LCP	8	1926.88	2220.53			
Tested: Number refineries	LCP	11	.91	1.22	1.751	.78	.098
	no LCP	8	.13	.35			
Tested: Number chemical plants	LCP	11	2.82	4.21	1.406	2.19	.178
	no LCP	8	.63	1.41			
Tested: Number TRI facilities	LCP	11	10.73	9.84	1.448	5.23	.166
	no LCP	8	5.50	2.88			
Tested: Onsite Pounds Released (TRI)	LCP	11	5191351.50	6269528.06	2.166	4850542.45	.045*
	no LCP	8	340809.00	487654.55			

The results from this series of tests demonstrates an association between oil and gas presence and the development of a LCP, but that contrary to the hypothesis, it was found that parishes with a higher level of oil and gas presence were more likely to have developed a LCP. Except for on-site pounds released (TRI), however, the measures of oil and gas presence did not obtain statistical significance at the 95% confidence level. Number of refineries was significant at the .10 level.

Summary and discussion of findings

A review of hypotheses and testing outcomes as summarized in Table 14 illustrates that several hypotheses were not supported. Respondent framing was indeed associated with the presence or absence of a LCP, but when the means were graphed (Figure 3) the relationship of *regulator* frame to LCP development status did not seem to have an entirely linear appearance. With the absence of a LCP, respondent framing tended toward the regulated framing. As LCPs matured respondents associated with them became increasingly oriented to the *regulator* frame. However, this upward trend peaked with new (less than 5 years old) LCPs and diminished thereafter with the mean for Mature LCPs settling in the higher end of the mixed frame range.

Another finding was that with these respondents, *regulator* framing was strongest among advisory panel members and not among individuals who applied policy and regulations on a day-to-day basis. The middling position of staff administrators was brought into focus by the negative influence of the parish council/police jury respondent type on regulator framing.

Contrary to expectation, no statistically significant associations were found between resource related occupations and respondent framing. Nor was there a statistically significant association between resource related occupations and LCP development. There was a pattern of positive associations between measures of oil and gas presence and LCP development. In particular, a positive and statistically significant association between the number of onsite pounds released per parish (Toxic Release Inventory) and presence of LCP was found. This measure was used as a proxy measure

Table 14. Summary of tested hypotheses and findings

Hypothesis	Results
<i>Regulator frame development and status of LCP</i>	
H1 Respondents from parishes with older, active LCPs will exhibit higher levels of agreement with regulator framing	Not supported.
H2a Respondents from parishes with newer LCPs will exhibit mixed framing.	Not supported. More likely to exhibit regulator frame.
H2b Respondents associated with a pending LCP will exhibit mixed framing.	Not supported.
H3 Respondents associated with no LCP will exhibit lower levels of regulator framing.	Supported.
<i>Regulator frame development and respondent characteristics</i>	
H4 Administrators (staff) are more likely than others to exhibit regulator frame.	Not supported.
H5 There is a positive relationship between SEI scores and regulator frame.	Supported.
H6 There is a negative relationship between regulator framing and resource dependent occupations of respondents.	Not supported.
<i>Salience of resource dependent occupations and LCP development</i>	
H7 There is a negative relationship between resource dependent occupations and development of LCP	Not supported.
<i>LCP development and parish demographics</i>	
H8 There is a positive relationship between population density and development of LCP.	Supported
H9 There is a negative relationship between oil and gas presence and development of LCP	Not supported. A positive relationship was found.

for oil and gas presence with the caveat that TRI pounds released were predominately but not exclusively related to the oil and gas industry.

In exploring the question, ‘why are coastal parishes experiencing different levels of capacity-building’, analysis has so far shown that capacity (measured here by the presence of the *regulator* frame), while linked to the development of a local coastal program, was also influenced by individual characteristics such as respondent type and socio-economic status. LCP development was linked to oil and gas presence. In the next chapter, I analyze multiple layers of data to identify additional characteristics related to LCP development that can be matched to resource mobilization theory or social construction theory.

CHAPTER V

DESCRIPTIVE ANALYSIS

In this chapter, I examine multiple layers of data from several sources. I present descriptive findings from the survey instrument on frequency of respondent participation in coastal zone related activities, respondent perceptions of constituency support for LCP development, vulnerability to coastal hazards, existing parish expertise, hurdles to developing an LCP, efficacy of the state program, benefits attributed to an approved LCP, and whether or not having an LCP gives their parish ‘a say’ in matters of state concern. Throughout this chapter, I compare parishes with an LCP to those without a LCP, and at the end of the chapter I summarize findings in relation to the comparison.

All coastal parishes

Frequency of participation in coastal zone related activities

On the survey, respondents were asked to indicate how often they engaged in several categories of coastal zone related activities. The categories were grouped by weekly, monthly and yearly activities. Weekly activities included telephone or personal contact with people working in coastal zone management. Monthly activities included reading technical reports, journals and accessing federal or state websites. Yearly activities included coastal zone related training seminars, field trips, conferences, and public meetings (excluding regular parish council or police jury meetings).

Summed frequencies reported for weekly telephone and personal contact with people working in coastal zone management ranged from 0 to 40 times per week and were categorized into 0, 1 – 10, 11 – 20, and 21+ times per week. Crosstabulations¹² of the categorized variable by LCP or no LCP showed that all respondents from non-LCP parishes and 93% of respondents from LCP parishes had telephone or personal contact with other people in coastal zone management 10 or fewer times per week. A majority

¹² Crosstabulation tables for weekly, monthly and yearly CZM related activities are located in Appendix.

(56%) of respondents from parishes with no LCP had no weekly in person or telephone contact with people working in coastal zone management, compared to 16% of respondents from parishes with an LCP. An independent T-test was conducted for frequency of respondent participation in weekly CZM related activities grouped by LCP or No LCP with results in Table 15. The difference in the means between the two groups was statistically significant at the 95% confidence level. Respondents from parishes with an LCP were more likely to have weekly in-person and telephone contact with people working in coastal zone management than did respondents from parishes without an LCP.

Table 15. Independent T-test of respondent participation in weekly CZM related activities grouped by LCP or No LCP

N=82 Tested: Weekly CZM related activities	Group statistics			Independent T-test		
	N	Mean	S.D.	t	Mean Diff	Sig (2-tailed)
LCP	57	3.72	6.826	2.300	3.16	.024*
No LCP	25	.56	.768			

Frequencies for monthly activities were examined next. Summed frequencies reported ranged from 0 to 41 times per month and were categorized into 0, 1 – 10, 11 – 20, and 21+ times per month. Crosstabulations showed that the majority of respondents from LCP and non-LCP parishes (73% and 96% respectively), engaged in reading coastal zone related journals, technical reports or in accessing of federal and state websites 10 or less times per month, with 12% from both groups indicating no participation in these monthly activities. Of respondents from LCP parishes, 10% engaged in these activities more than 20 times per month. An independent T-test was conducted for frequency of respondent participation in monthly CZM related activities grouped by LCP or No LCP. The results are presented in Table 16 below.

The difference in the means was substantial. Respondents from parishes with an LCP were more likely to engage in CZM related activities of reading journals and technical reports and accessing state and federal websites. The difference in means between the two groups was statistically significant at .010 (2-tailed).

Table 16. Independent T-test of respondent participation in monthly CZM related activities grouped by LCP or No LCP

N=82 Tested: Monthly CZM related activities	Group statistics			Independent T-test		
	N	Mean	S.D.	t	Mean Diff	Sig (2-tailed)
LCP	57	7.86	9.799	2.682	5.38	.009*
No LCP	25	2.48	3.002			

Summed frequencies reported for yearly activities ranged from 0 to 190 times per year and were categorized using the same intervals. Crosstabulations showed far less participation in training seminars, field trips, conferences and public meetings by respondents from parishes with no LCP, with 38% of them indicating no participation, and 54% participating 10 or less times a year. Among respondents from LCP parishes, 9% indicated no participation, while 18% indicated 21 or more times a year. The majority (53%) participated 10 or less times per year. An independent T-test was conducted for frequency of respondent participation in yearly CZM related activities grouped by LCP or No LCP with results presented in Table 17. The difference in means was again substantial, but there was also large variation in the LCP group. Statistical significance at the 95% confidence level was not obtained.

Table 17. Independent T-test of respondent participation in yearly CZM related activities grouped by LCP or No LCP

N=80 Tested: Yearly CZM related activities	Group statistics			Independent T-test		
	N	Mean	S.D.	t	Mean Diff	Sig (2-tailed)
	LCP	56	14.79	27.576		
	No LCP	24	4.29	8.447	1.822	10.49
						.072

Perceived constituency support for LCPs

In two measures of perceptions of the Local Coastal Program, all respondents were asked whether or not an LCP had voter support in their parish, and if an LCP were worthwhile to their parish. As Figure 4 depicts, of respondents from LCP parishes, 74% thought that voters supported the LCP program and 88% thought that the program was worthwhile to the parish. Of respondents from parishes with no LCP, 40% thought that voters would support an LCP and 52% thought that an LCP was worthwhile to the parish. Only in parishes with no LCP were there negative responses, with 4% indicating that voters would not support an LCP and 12% indicating that an LCP was not worthwhile.

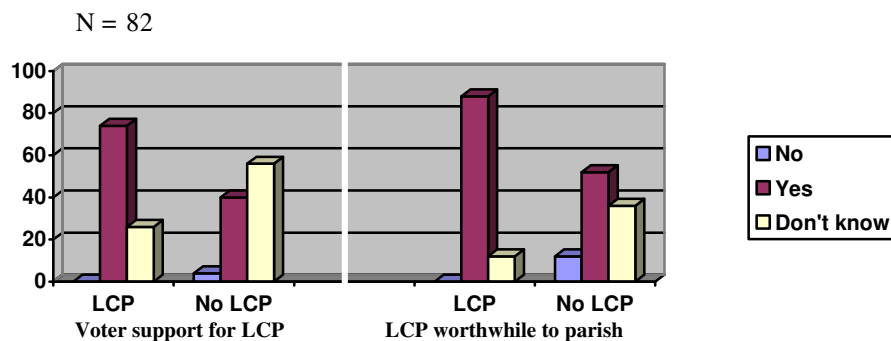


Figure 4. Measures of perception of constituency support for an LCP grouped by LCP or no LCP

Perceived vulnerabilities to coastal hazards

All respondents were asked about their perceptions regarding the vulnerability of their parishes to coastal hazards. Questions differentiated between vulnerabilities to physical hazards and economic vulnerabilities resulting from hazard events. Coastal hazards were categorized as hurricanes/tropical storms, flooding/storm surge, pollution, land loss, and saltwater intrusion. Economic vulnerability categories were property loss, infrastructure damage, business interruption, loss of investment capital, and loss of natural resources.

Crosstabulations of physical vulnerability due to coastal hazards and LCP/no LCP (Table 18) show that a greater percentage of respondents from parishes with an LCP perceived a high level of vulnerability to all specified coastal hazards as compared to respondents from parishes without an LCP. Conversely, with the exception of hurricanes/tropical storms, a greater percentage of respondents from parishes without an LCP consistently perceived low vulnerability to specified coastal hazards as compared to respondents in parishes with an LCP. The greatest percentage of respondents from both

Table 18. Perceptions of physical vulnerability to coastal hazards grouped by LCP or No LCP

Coastal Hazard – Physical vulnerability			Low	Moderate	High
N = 80	Hurricane/tropical storm	LCP	--	16%	84%
		No LCP	--	24%	76%
N = 80	Flooding/storm surge	LCP	7%	20%	73%
		No LCP	12%	20%	68%
N = 77	Pollution	LCP	17%	42%	41%
		No LCP	22%	48%	30%
N = 79	Land loss	LCP	11%	18%	71%
		No LCP	21%	21%	58%
N = 78	Saltwater intrusion	LCP	7%	17%	76%
		LCP	29%	17%	54%

LCP and non-LCP parishes (84% and 76% respectively) perceived high vulnerability to hurricanes/tropical storms. The same general pattern presented when respondents were asked about economic vulnerability (Table 19), although percentages perceiving low vulnerability increased for both LCP and non-LCP respondents.¹³ Perception patterns demonstrated by respondents in physical and economic vulnerability categories

Table 19. Perceptions of economic vulnerability to coastal hazards grouped by respondents from LCP and non-LCP parishes

Hazard impact – Economic vulnerability		Low	Moderate	High
N = 78 Property loss	LCP	13%	15%	72%
	No LCP	21%	29%	50%
N = 78 Infrastructure damage	LCP	17%	18%	65%
	No LCP	21%	50%	29%
N = 78 Business interruption	LCP	11%	28%	61%
	No LCP	29%	38%	33%
N = 76 Loss of investment capital	LCP	13%	34%	53%
	No LCP	30%	35%	35%
N = 79 Loss of natural resources	LCP	17%	17%	66%
	No LCP	16%	28%	56%

were graphed (line graphs provided in Appendix). Comparisons of the graphs and percentages in Tables 18 and 19 show that respondents from LCP and non-LCP parishes demonstrated greater congruity with perceptions of physical vulnerability to coastal hazards. Responses across levels of perceived economic vulnerability were more widely varied.

¹³ While perceptions of vulnerability are expected to be mediated by the location of the parish in relation to specific coastal hazards, it is worth recalling from the map of coastal parishes in Chapter 1, that the distribution of LCP and non-LCP parishes is relatively even. This is to say, that while some parishes without LCPs are located more inland, there is a cluster of non-LCP parishes right on the coast. Parishes with LCPs are similarly distributed.

To see if these findings were statistically significant, chi-square tests were performed. Because there were missing and thin cells, 2X2 tables were created for the vulnerability variables categorized by high vulnerability and low/moderate vulnerability, and LCP and No LCP. Results of the Chi-square tests for respondent perceptions of physical and economic vulnerability, grouped by whether the respondents were from a LCP parish or a non-LCP parish are presented in Table 20. The congruity visible in the graphs was confirmed by the results for the Chi-square tests for respondent perceptions about physical vulnerability. Only in perceived vulnerability to saltwater intrusion was the difference between LCP and non-LCP respondents statistically significant. No

Table 20. Chi-square and Fisher Exact Significance tests for perceptions of physical and economic vulnerabilities by LCP or non-LCP respondent

Vulnerability item		Pearson Chi-Square	Fisher Exact Sig (1-sided)
N = 80	Hurricanes / tropical storms	.658	.302
N = 80	Flooding / storm surge	.188	.428
N = 77	Pollution	.730	.277
N = 79	Land loss	1.197	.201
N = 78	Saltwater intrusion	3.693	.050*
N = 78	Property damage	3.625	.051
N = 78	Infrastructure damage	8.496	.004**
N = 78	Business interruption	5.142	.021*
N = 76	Loss of investment capital	2.096	.115
N = 79	Loss of natural resources	.837	.252

statistically significant differences were found for other physical vulnerability items. The appearance of less congruity between LCP respondents and non-LCP respondents in perceptions of economic vulnerability was also confirmed by Chi-square tests.

Statistically significant differences between LCP and non-LCP respondents were found in perceptions of economic vulnerability, specifically, in infrastructure damage and business interruption. Property damage was almost statistically significant at the 95% confidence level ($p = .051$).

Perceptions of parish expertise in specialized administrative skills

All respondents were asked to rate the expertise of their parish in four specialized skills: grant writing, program development, networking, and joint ventures. These skills were selected because such skills are required in the development process of an LCP. Skill levels ranged from no skills designated '0', to very good skills designated '5'. Due to expected thin or empty cells, these were collapsed into three categories: poor, average and good. Crosstabulations were then done with appropriate tests for significance for each specified skill by LCP or non-LCP respondents. Even with the collapsed categories there were still thin cells. No statistically significant differences between respondents from LCP parishes and those from non-LCP parishes were found. The perception of skill in networking came close to obtaining statistical significance (Chi-square = 4.206 and Kendall's Tau-b Approximate Sig. = .059). Percentage distributions are presented in Table 21. Networking was the only skill in which a majority of LCP respondents (60%)

Table 21. Perceptions of parish expertise in specified skills grouped by respondents from LCP and non-LCP parishes

Parish expertise:			Poor	Average	Good
N = 78	Grant writing	LCP	15%	36%	49%
		No LCP	8%	32%	60%
N = 78	Program development	LCP	11%	40%	49%
		No LCP	20%	36%	44%
N = 77	Networking	LCP	13%	27%	60%
		No LCP	32%	28%	40%
N = 77	Joint ventures	LCP	16%	42%	42%
		No LCP	24%	36%	40%

thought that their parish had good skills, whereas 32% of non-LCP respondents thought their parish had poor skills in networking. Where grant writing was concerned, a majority (60%) of respondents from non-LCP parishes thought that their parishes had good skills in grant writing, whereas just less than half of the respondents from LCP parishes thought that grant writing skills in their parish were good.

Non-LCP parishes

In this section, perceptions of respondents from parishes without an LCP on issues such as hurdles to developing an LCP, if their parish would address coastal issues differently if they had an LCP, and whether or not respondents thought that their parish would have ‘a say’ in matters of state concern.

Table 22. Frequency and percentage of respondent perceptions (non-LCP parishes) regarding hurdles to developing an LCP in their parish.

N = 22	Problem	None/small	Medium	Big	Cumulative
	time-consuming	8 36%	8 36%	6 28%	22 100%
	work/effort involved	6 27%	9 41%	7 32%	22 100%
	bureaucratic red tape	5 23%	9 41%	8 36%	22 100%
	financial input by parish	5 23%	2 9%	15 68%	22 100%
	specialized skills required	6 27%	10 46%	6 27%	22 100%
	insufficient state funding	6 27%	--	16 73%	22 100%
	ineffective state CZM program	8 36%	6 28%	8 36%	22 100%
	inadequate training from state	6 28%	8 36%	8 36%	22 100%

Perception of hurdles to developing an LCP

Respondents from non-LCP parishes were asked about their perceptions on hurdles to developing an LCP. Problems specified included time-consuming, work/effort involved, bureaucratic red tape, financial input by parish, specialized skills required, insufficient state funding, ineffective state CZM program, and inadequate training from state. As can be seen in the frequency distribution of perceptions below (Table 22), funding issues were most salient in terms of what respondents perceived as big problems. Financial input by the parish to developing an LCP was identified as a big problem by 68% of respondents and 73% thought that insufficient state funding was a big problem. Perceptions of other hurdles were fairly evenly distributed across size of problem, with the exception of specialized skills required. Almost half the respondents thought that the specialized skills required for development of an LCP would be a medium sized problem to their parish.

Perceptions of approach and voice if parish had an LCP

To the question, ‘would your parish address coastal zone management issues differently if your parish had an LCP?’ over 40% of respondents indicated ‘yes’, 19% thought that the parish wouldn’t address matters differently, and another 38% indicated that they didn’t know if it would make a difference (Figure 5). When asked if having an LCP would give their parish ‘a say’ in coastal zone matters of state concern, responses were similarly split, with 41% indicating ‘yes’ and 14% indicating ‘no’, and another 46% undecided.

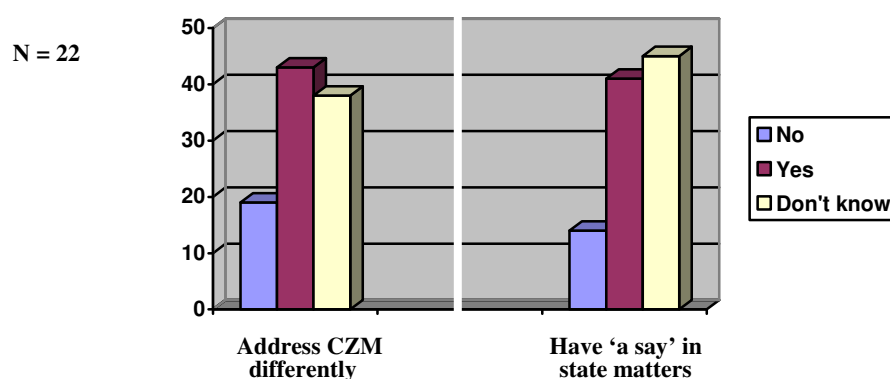


Figure 5. Perceptions of approach and voice if parish had an LCP

LCP parishes

In this section, respondents from parishes with an LCP were asked several questions about benefits from having a LCP, their perceptions of state program effectiveness, and if having an LCP had given their parish ‘a say’ in coastal zone matters of state concern.

Perceptions of efficacy of state LCP oversight

Respondents from LCP parishes were asked about their perceptions of the performance of the state CZM program in relation to their LCP. Efficacy items included DNR/LCP cooperation, integration of programs, 2-way communication, training opportunities, and evaluative feedback loop. Respondents rated these items on the basis of low, moderate and high levels of efficacy. The results are presented below in Table 23.

Table 23. Frequency and percentage of respondent perceptions (LCP parishes) regarding efficacy of state CZM program in relation to parish LCP

N = 48	Effectiveness Item	Low	Moderate	High	Cumulative
	DNR/LCP cooperation	2 4%	27 56%	19 40%	48 100%
	Integration of programs	8 17%	30 62%	10 21%	48 100%
	2 – way communication	3 6%	27 56%	18 38%	48 100%
	training opportunities	15 31%	23 48%	10 21%	48 100%
	evaluative feedback loop	14 29%	22 46%	12 25%	48 100%

The greatest percentage of respondents rated the state CZM program across all specified categories as having a moderate level of effectiveness. The categories that about 1/3 of respondents ranked low on effectiveness were training opportunities and evaluative feedback loop. Categories rated as having a high level of effectiveness by more than 1/3 of respondents were DNR/LCP cooperation and 2 – way communication.

Perceptions of benefits from having an approved LCP program

Respondents were asked to indicate whether or not they thought that parish skills in grant writing, program development, networking and joint ventures had improved as a result of the LCP developmental process. As Figure 6 represents, a majority of respondents thought that parish skills had improved in areas of program development

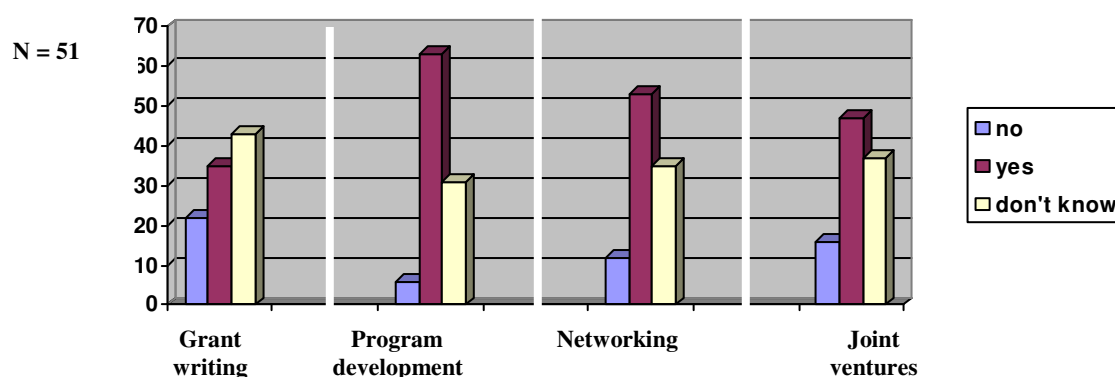


Figure 6. Perceived improvements to parish skills as a result of the LCP development process

and networking (63% and 53% respectively) as a result of the LCP developmental process. Close to 50% of respondents thought that parish skills in the area of joint ventures had improved as well. Fewer respondents thought that grant writing skills had improved, with 22% indicating that skills had not improved and 43% undecided.

Positive perceptions were more frequent with the next series of questions about the functional aspects of programmatic participation that asked:

- Had the LCP smoothed the permit process?
- Had public involvement increased as a result of the LCP?
- Did the benefits to having an LCP outweigh the costs of development and maintenance of it?
- Did the LCP give their parish 'a say' in CZM matters of state concern?

The majority of respondents answered affirmatively to this series of questions (Figure 7), with most indicating that public involvement had increased (71%), and that the benefits

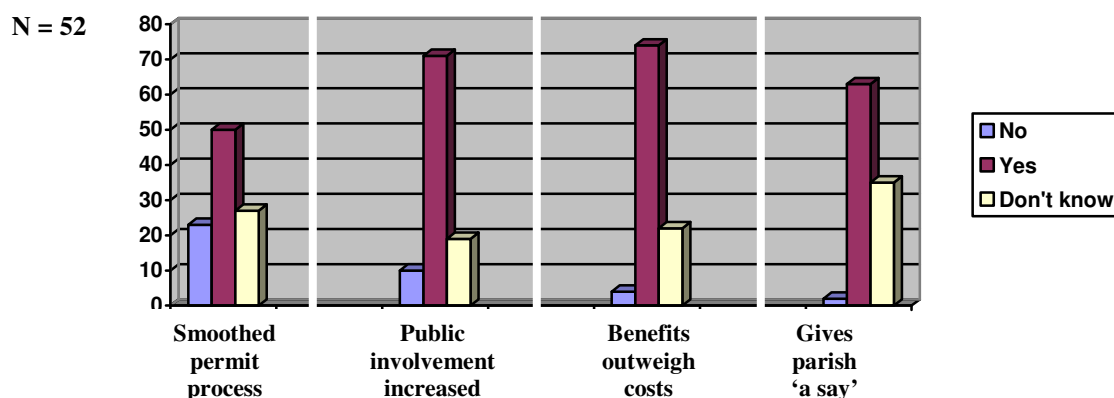


Figure 7. Perceived improvements to functional aspects of programmatic participation

outweighed the costs (74%). While 50% thought the permitting process had been smoothed, the remaining 50% of respondents were almost equally split between 'no' and undecided. A fairly high percentage of respondents (35%) were undecided as to whether or not having an LCP gave the parish 'a say' in state matters, while almost all others thought that it did.

Summary and discussion of findings

In all groups of CZM related activities specified, the frequency of participation for LCP respondents was greater than that of non-LCP respondents. Recalling the literature, increased interaction with agency regulators (people working in CZM) reinforces the regulator frame. Monthly activities of reading CZM related journals, technical reports and websites are also part of the educational and socialization processes that work toward the building of institutional capacity in coastal zone management. The difference between LCP respondents and non-LCP respondents was again statistically significant. Socialization and educational processes also occur in conference, training seminar, field trip and public meeting scenarios. While the difference in frequency between LCP and non-LCP respondents was large in these types of activities, there was also huge variation within the LCP group itself, such that statistical significance was not obtained. However, given the consistency and significance of frequency differences in weekly and

monthly activities, it is reasonable to think that the disparity within the LCP group may be because most of these activities demand resources of funding and time to which respondents from both LCP and non-LCP parishes may have disparate access for any number of reasons. This points to a connection between resource availability and the opportunities for socialization that follow from it.

In examining perceptions of physical vulnerability of parishes to coastal hazards it is evident that there is little difference between respondents from either LCP parishes or non-LCP parishes, with the exception of saltwater intrusion. Where saltwater intrusion is concerned, it may be that the effects of saltwater intrusion are somewhat anomalous to LCP parishes, or that less is known by non-LCP respondents about vulnerabilities to this type of hazard. When it comes to transferring the salience of physical vulnerabilities to a hazard agent to economic impact vulnerabilities however, there is substantial variation between the two groups. The reduced salience for non-LCP respondents of economic impacts is particularly noticeable with infrastructure damage, property loss and business interruption, illustrating that the connection between the hazard agent and economic vulnerabilities is weaker for non-LCP respondents. Interestingly, both LCP and non-LCP respondents demonstrated congruent perceptions of vulnerability to loss of natural resources and this had high salience to both groups. But loss of investment capital (largely dependent on natural resources in coastal parishes), while more salient to LCP respondents, held less overall salience.

Perceptions of parish expertise in specialized skills differed with grant writing and networking. Non-LCP respondents thought their parishes had good skills in grant writing, whereas LCP respondents did not rate their parishes as high. Ratings flip-flopped for networking skills with LCP respondents giving their parishes higher ratings compared to the ratings given by non-LCP respondents. The perception of a lower skill level in grant writing for LCP respondents was reinforced by the identification of this skill as the least improved through the process of LCP development. Most LCP respondents rated their parish skill level in program development and networking as

good and most thought that parish skills in these areas had improved as a result of the LCP development process.

Non-LCP respondents showed some indecision as to whether or not their parishes would address coastal zone management differently if their parish had an LCP, with a little over 40% indicating that there would be a difference. The greatest hurdle to developing an LCP was funding – the financial input required from the parish and insufficient state funding. About one third of non-LCP respondents thought that all of the hurdles specified were small problems to their parish. Of these same respondents, 40% thought that an LCP would have voter support and over half thought that an LCP was worthwhile. Indecision was evident again with non-LCP respondents as to whether having an LCP would give their parish ‘a say’ in CZM matters of state concern. About 40% affirmed that they believed that the parish would have ‘a say’, with close to half undecided.

The majority of respondents from LCP parishes favored average ratings on all specified items relating to state CZM /LCP programmatic performance. DNR/LCP cooperation received a higher rating by 40% of respondents, closely followed by 2-way communication. Training opportunities held an average rating, but almost 30% of respondents gave this item a low effectiveness ranking.

Average state CZM effectiveness ratings notwithstanding, LCP respondents overwhelmingly agreed that the benefits of the LCP to their parish outweighed the developmental and maintenance costs associated with it. Most thought that public involvement had increased as a result of their LCP and that because of the LCP their parish had ‘a say’ in state CZM matters. About half of the respondents believed that the LCP had smoothed the permit process, while the other half were split between indecision and the belief that the LCP did not accomplish this.

In the next chapter, I analyze interviews, field notes and open-ended responses on the survey instrument. Themes will be identified and discussed within the context of LCP or non-LCP parishes.

CHAPTER VI

QUALITATIVE ANALYSIS

This chapter presents findings from the content analysis of open-ended questions on the survey instrument, interviews, and field notes of observed meetings. In the first sections I compare themes from the open-ended survey questions. Survey respondents for LCP parishes are comprised of council/jury officials, parish government staff with CZM duties, and advisory panel members. Non-LCP respondents are comprised of council/jury officials and parish government staff with CZM duties. Following this, I present themes from parish level interviews, also grouped as LCP parishes or non-LCP parishes.¹⁴ Interview respondents, with one exception, are parish government staff with CZM duties. A summary discussion of themes augmented by data from the interview with a representative from the state DNR coastal programs and observations from LCP related meetings concludes the chapter.

Respondents from LCP parishes describe the biggest hurdle in forming their local coastal program

When asked to describe the biggest hurdle encountered when forming their LCP, respondents from LCP parishes offered a variety of responses that could be organized into three non-exclusive conceptual categories: administration, resources, and politics. In the category of the administration of the program, several respondents cited communication as a pitfall, within the local setting and between local and state levels. Examples were “understanding our duties”, “understanding the benefits to the public”, “networking with other parishes”, “communication”, “public education of the process”, and “getting state to give consideration to LCP comments”. According to these respondents, foundational programmatic concepts had not been adequately communicated and this had adversely affected comprehension. Another issue under

¹⁴ Individual parish profiles including demographic and industry-related information are located in the Appendices.

administration was increased bureaucracy, or the “process” described as “another layer of paper that an applicant would have to wade through”.

The resources to participate formed another category of concern. Resources were variously described in terms of “money” or “funding”(several respondents), “time”, “lack of energy pushing one [LCP]”, “poor training of our people”, “cost of staffing to complete additional required paperwork”, “leadership moving on it” and “finding persons to represent different segments of communities”.

The last category focused on the political realm where respondents recalled conflicting interests within the parish: “political factions” (several respondents), “political fear of LCP”, “cooperation among council members”[as lacking], “development thinking it [LCP] too restrictive; activists thinking it not restrictive enough”, “development v.s. preservation arguments unclear”, “inspection work/enforcement”, “large landowners” and “mitigation costs [for permit applicants]”.

Comments on perceptions of the LCP program from participants and non participants

In addition to answering the survey questions on voter support and whether an LCP was worthwhile to their parish, many respondents chose to add comments. Most of these respondents were from LCP parishes. With regard to voter support, both LCP and non-LCP comments were generally favorable and associated with the erosion issue: “erosion is a large coastal concern”, [voters] “understand the need”, “coastal erosion salient”, “inland erosion issue”, “citizens concerned”, “MRGO¹⁵ salient to voters” and “public realizes how important the coast is”. Some examples indicated selective voter support based on natural resource/habitat related issues: “ fresh water diversions supported by anglers”, “supported among hunters/fishers”, “the only people concerned about coastal problems are hunters, fishermen, environmentalists and politicians – public could care less”. The next examples, however, indicate that some respondents perceive conditional support or none at all: “voters are aware of coastal issues and they support any activities

¹⁵ MRGO- Mississippi River Gulf Outlet

(within reason) that help this cause”, “if done right & costs kept down”, and “[iffy] if it requires a tax increase”, “most people don’t understand the issues and aren’t concerned until it affects them personally”, “general public probably does not know about LCP”.

Table 24. Respondent comments on whether or not LCP worthwhile to their parish

Non-LCP responses:

- “effort in erosion abatement”
- “flooding/hurricane & erosion/wetland – protection”
- “inland erosion issue”
- “we started our own private non-profit organization”
- “it is very evident the work that is being done to improve the land lost in __parish”
- “all programs that educate public are welcome – coastal programs are our future”

LCP responses:

- “environmental sensitivity of the area – LCP helps protect that”
- “we receive funding& technical assistance”
- “one of the few programs to support coastal efforts in this part of the state”
- “to save coast”
- “program well-respected – our members [panel] are a great resource”
- “ keeps local citizens involved in the process”
- “provides local government input into coastal use permitting process & is vehicle through which CWPPRA (Coastal Wetlands Preservation, Protection and Restoration Act) projects are approved & implemented”
- “program is well-known in parish & active in securing projects for the region”
- “local employees/contractors better understand local problems and can more easily negotiate with local developers”
- “allows us a mechanism to monitor costal activities especially oil/gas. It also allows us to have a voice in negotiating these activities”
- “avenue of communication”
- “get grants and federal projects”

As is evident in Table 24 above, comments associated with whether or not an LCP was worthwhile to their parish, cleave to either general awareness of coastal issues (erosion, land loss, flooding) or specific resource-related programmatic benefits. The

limited comments provided by respondents from non-LCP parishes illustrate a vague association of the Local Coastal Program with a general awareness of coastal issues, but information on how this association might translate specifically to their parish was absent. Conversely, while some respondents from LCP parishes made the vague association to coastal issues, most offered considerable detail on how the program translates to specific, usually resource-related,¹⁶ benefits for their parish.

Themes from interviews

A total of eleven parish level interviews were conducted, with five from non-LCP parishes, five from LCP parishes and one pending. As in some previous analyses, the pending LCP was included with the LCP parishes, having advanced through the program development process at the time of the study. In the non-LCP group of parishes interviewed, two were Gulf-adjacent parishes and three were inland coastal parishes. This roughly matches the total ratio of three coast-adjacent parishes to five inland coastal parishes that have no LCP. In the LCP group of parishes interviewed, four were Gulf-adjacent parishes and two were inland coastal parishes. Again a rough match to the total ratio of six coast-adjacent parishes to four inland coastal parishes was achieved.¹⁷

Non-LCP parishes

Of particular note in non-LCP interviews are the inconsistencies in responses describing *LCP recruitment or promotion by DNR*. In one parish, the respondent stated that he had never heard of a local coastal program, even though he was fairly well versed in the location and some management aspects of that portion of the parish in the coastal zone. A second respondent could not recall ever being approached by DNR to develop an LCP. Yet another respondent had not heard “a lot” about it”, and admitted, “I don’t even know where the coastal zone is here”. In the following exchange the same respondent

¹⁶ Resource as used here includes financial, educational, technological, administrative, natural, human, etc.

¹⁷ The original plan was to interview all nineteen coastal zone parishes, and interviewing commenced in 2005 on a convenience basis, alternating between LCP and non-LCP parishes. Hurricane Katrina preempted the completion of the remaining interviews.

illustrates confusion between the local coastal program and CWPPRA¹⁸ projects, when asked what they know about the Local Coastal Program:

Other than we are constantly applying for grants and monies, and hardly ever see where any of it is applied...all kinda encouraging us to submit projects and needs and support. And I really don't have anything to submit... For one thing, we have a vast swamp approaching there. So its not like we have roads, or subdivisions, or anything down there that we're really worried about. And we aren't really worried about the loss of wetlands, and swamps and so forth because its just not a matter of concern to us because it doesn't affect any of our activities.

(08/25/05)

One respondent indicated that their parish had been approached, but that "...it (LCP) was another layer that would have been involved and that it was not a necessary situation for us at the time" (08/08/05). This parish had been approached again recently to allow DNR to do another presentation. Another respondent said that their parish council had been approached and had entertained the prospect of an LCP but they had been dissuaded.¹⁹

We backed out because one of the representatives of DNR said 'you don't want to get into this'. He said too much bullshit. And so the parish...withdrew. And then just recently the parish president asked me... 'what do you think about the coastal zone...do you think we ought to get involved? [...] And I talked to the people in _____parish who are in it...and advisory people. Some of the people said 'don't mention my name but there's an awful lot of stuff in this pot', he says, 'don't get involved in it'.

(05/26/05)

Taken together, these responses from individuals who are parish CZM contacts, seem to point to selective promotion of the Local Coastal Program, and also indicate an absence of consistent knowledge about the Local Coastal Program and about coastal management in general.

A second theme revolves around perceptions leading to *resistance to the development of an LCP*. Respondents from parishes that had been approached by DNR to develop an LCP, or had knowledge of the Local Coastal Program, indicated that the perception held in their parishes was that the LCP fails the cost/benefit test.

¹⁸ CWPPRA – Coastal Wetlands Planning, Protection and Restoration Act (1990) also known as the Breaux Act. This act provides the authorization for funding for projects qualifying under its guidelines.

¹⁹ Dissuasion by DNR representatives had been noted on two surveys as well – one from the same parish as the interview respondent, and one from another parish.

...a lot of paperwork that goes with it for what you're getting from it. (*I: Apparently DNR is going to online submission of permits to do away with the paper*) You do away with paper by you don't do away with time, do you?

(05/26/05)

In my opinion it didn't look like it was going to save anybody any time or effort to get into a local coastal program...and there's a cost that's involved, and I'm not sure that the cost is going to be worth going through another permitting process. [...] It sounds like we would require some additional personnel. [...]

I cannot sell (the LCP) at this point because I don't believe in it. I don't think we get any bang for the buck. I don't see any substantive reason to – they (DNR) haven't shown me anything yet. [...] It would have to be all positive and almost a written guarantee that if you implement this, this would be the end result – and you'll never get a good guarantee.

(08/08/05)

Too much trouble...expense...[...] I just don't see the major development here that would warrant the money – the cost of having to get that in place and having monitors, and inspectors.

(07/20/05)

Interacting with the cost/benefit issue is political resistance against what is perceived as zoning – specified land use.

Another parish...they felt that it would be unpopular, that it would rock local political stability if they had a local program, and another parish responded that initially it was rocky, but then people came on board. They started to change their minds as they were able to have more access to using their mouth. [...] I worry a little bit about local coastal programs because in effect it sets up zoning, which the main parish is not ready for, although they need to be....

(08/08/05)

We don't use that word (zoning)...we have a land use committee [...] probably the southern end doesn't have that much trouble with the zoning – or good land use policy...the northern (end) totally objects to any land use control.

(08/25/05)

Still another perception tied to resistance toward the Local Coastal Program is a lack of urgency in some parishes regarding coastal issues relevant to them as compared to other parishes.

We are marginally coastal [...]I don't think we suffer (with erosion) like they do over on some of the southwest...

(08/25/05)

We are a little different than the eastern part of the state because...they're getting into a process where they are...losing a lot of the interior marshes. In our situation we still have the capacity to protect that before it reaches and gets into the weaker marshes.

(08/08/05)

...but they have more pressing problems over there than we have. They're losing their land like crazy – its being washed away.

(05/26/05)

Eventually it (coastal issues) will affect us. It will affect us in the future. I think we're pretty safe and stable right now, but I think, you know, under any circumstances we're still vulnerable...cause I think that we are close enough to hurricane, tidal surge and anything else but, to be honest with you, our role has been more supporting them (other parishes perceived more vulnerable) versus taking an active lead.

Like anybody else, we think in terms of 'when the wolf's at the door' people worry. I don't see the wolf at our door yet. (emphasis mine)

(07/20/05)

External decision-making and parish dependencies that follow form the third major theme from non-LCP parish respondents. As is seen in the following quotes there is a reluctance toward getting 'involved' and parish review of state permitted activities is, at best, cursory. In two of the quotes, respondents refer to mitigation in wetlands (to offset permitted human activities having adverse impacts). This too receives short shrift as a local issue because of external decision-making with no local input.

Most of them (wetlands permits)...lots of em, or all of em that I can think of right now are land development. Hardly ever do we get any objection for our developers...they're the ones how have to apply for this. But we usually get a copy from the Corps of Engineers that says they- find no conflict. [...] One thing we require is a wetlands determination and then prove that the land has been mitigated and there's no a violation in wetlands. (*I: When a permit passes to you for public comment, do you review the application?*) No I don't normally... normally all I see is either they (Corps) do have a problem or they don't have a problem. And so far I haven't seen where they have (a problem). [...] If they don't have a problem, we don't question it. [...] I don't really understand all of the terminology and also the governmental....all the red tape...I just understand when I see the letter of no objection from the Corps of Engineers that the developer's okay to proceed.

(08/25/05)

And we'll review various projects ...just to see whether or not there's any objection at the parish level. And if we don't have an objection, we'll get a waiver as far as a submittal piece for the Corps of Engineers permit application. (*I: In your commenting...have you had occurrence where you felt you needed to raise an objection?*) I don't, to be frank with you, recall any– many objections being made in the last 12 years. We don't see a whole bunch of them. You gotta understand, we're a very rural parish....

(07/20/05)

If I was in the program (LCP) I'd...you know, you want to keep it (mitigation) local. You don't want...you know, if we were doing that, you know– That's a can of worms there. (*I: Would that be something the parish would be interested in – seeking more ability to keep mitigation local?*) I'm not going to say yes or no because maybe and maybe not, you know...because we don't get involved in some of the things...
(05/26/05)

The last major theme focuses on parish *networking capabilities*, most respondents describing localized networking, that is, participation with adjacent parishes. Regional networking usually occurs in job-related areas not specific to coastal management.

We have a grant coordinator that does a lot of activities with the PACE organization [...] The Waterway Commission (Amite River)...we try to do joint efforts. We've established a couple of joint clean-ups because ...our river splits our parishes. So it doesn't do us any good to make laws governing half the river when they can just go do it from their area. So we've kinda pulled together and not only cleaned out the environmental issues but also the enforcement side also.
(08/25/05)

We belong to the Louisiana Flood Plain Managers Association...it's a great organization and its educational. [...] I used to go to all the quarterly meetings (LCP-DNR) even though I don't belong to the program – that's how I kept up with it, but all of a sudden their meeting day and my parish meeting day has conflicted several times...but I didn't miss a meeting, because it's a lot of educational stuff. [...] We have a coalition...Louisiana Coastal Coalition²⁰ in (a few) parishes. We got together as a kind of political thing [...] anything coastal...needs to be looked at, we look at it. That's what we do.
(05/26/05)

I do confer with them some (other parishes) – I go to Louisiana Parish Engineers and Supervisors Association quarterly meeting. [...] I am familiar with the (PACE) program. _____has attended some of the functions as president. But I'm not aware of any activities that we have been involved in.
(08/25/05)

I can call a meeting today and get that person and these agencies together – I can do it without having a local coastal program. (*I: Have you ever gone to a quarterly meeting for the local coastal program?*) I've gone to one. I thought it was another process – another meeting...to be honest with you, I think now they have better meetings, because we still do get the agendas, and they probably have more informative time.
(08/08/05)

²⁰ Louisiana Coastal Coalition (LCC) – a informal organization of some parishes to unify around coastal issues on an 'as needed' or issue-specific basis.

LCP parishes

The most prevalent theme among LCP parish interviews is the perceived *disjunction between coastal management and coastal restoration within the Louisiana Department of Natural Resources* and incoherencies that result. As respondents explain:

I think DNR...the state agency as a whole has recognized that they may be issuing permits for activities that would be in direct conflict with restoration projects they're planning now. So they may be approving levees in areas where the restoration project has identified all the levees that would need to be torn down for the restoration project to work. So there's no continuity between the two. (07/22/05)

...it gets confusing when permitting and regulatory issues are allowed in a restoration project area. [...] as far as coordination and interconnectivity goes...there's just an inherent understanding that one affects the other. And that's what I'm referring to with allowing oil and gas activities on CWPPRA project boundaries...if they rebuild _____ the way it needs to be rebuilt, you'd be crazy to allow a pipeline to go through that area or to allow drilling. So they've got to connect and be talking about things with one another... (05/06/05)

On the one hand, we're spending coastal restoration money to shore up this [land], and on the other hand, we're digging a canal for a marina. [...] Our local coastal program has specific management units that have goals for development, [...] and in the meantime, the coastal restoration effort has come around, so I think they need to be updated so that they meld. (05/06/05)

DNR is really broken up into these two separate sections and they are distinct. [...] those two arenas don't work together...they just don't. (07/21/05)

Adding to this disjunction is the perception that respondents (CZM/LCP administrators) are engaged in a regulatory process in which no state permit is denied.

Louisiana needs to have not so much an open book policy on allowing all this stuff to go through because if you propose it, you can do it. Out of all state concerns, none of them are going to be disapproved – not a single one. They will all go through the process and if you're prop washing or putting in a canal or deepening waterbeds, it all has a cumulative affect ... (05/06/05)

(The LCP) was developed in a controlled sense by, you know, economics more than environment at the time – not with a real focus on limiting economic activity. (05/06/05)

Another main theme has to do with *mitigation* requirements for wetland permitting. As one respondent stated, “...mitigation seems to be the big stumbling block with the (LCP) program”. Continuing, this respondent described financial difficulties emerging from permitting component:

Mitigation has become – its almost to the point where a monster has been created. Every time you have an impact, federal law requires you to mitigate these adverse impacts. Its sort of a big money issue now...some of the big landowners have gotten into mitigation, so now they’re demanding high prices for mitigation...mitigation costs to do canal dredging may be more than the project costs.
(07/22/05)

But apparently, private landowners are not the only ones interested in mitigation profits. Another respondent also noted financial disparities between what a private landowner of a mitigation bank charges as compared with the Army Corps of Engineers: “_____ was charging something like \$10,000 – 11,000 an acre for brackish marsh...and the Corps is charging about \$18,000, so that’s another problem” (05/17/05). Respondents described additional difficulties with single agency veto power on mitigation proposals:

We have a mitigation bank (private landowner)...I’ll do a WRDA²¹ here and it takes time to do a WRDA, and send it out. Everybody (state and federal agencies) gets a copy of it, everybody’s satisfied – then I get a phone call from the Corps, ‘Oh we don’t approve the ___repair’. Well, my interpretation is that its based on money.

(05/17/05)

All of the different agencies...there’s 5 or 6 or 7 different agencies...wildlife and fisheries...national fisheries...DEQ...DNR...Corps....they all have people who sit on these boards to approve mitigation sites....any one of those organizations does not particularly like a mitigation site or a mitigation plan, refuses the plan...will not accept it as mitigation. You have to start the whole process over and find another site. That’s totally wrong. [...] If I have six people sitting at the table and I can convince the majority that this is a good site...that’s all I should have to do. [...] To have 100% approval – we going the wrong way here.

(07/22/05)

Other issues related to mitigation involve off site locations and mitigation banks, and the efficacy of the mitigation program in actually mitigating against adverse affects from human activities in wetland areas.

²¹ WRDA – Water Resources Development Act (2002) provides authorization and funding for water-related civil works projects for the Army Corps of Engineers. Parishes can apply for funding for local civil works projects with the ACE as lead agency.

You want me to put this mitigation on land I don't even own....taxpayers don't appreciate that either. I'm buying mitigation rights for property outside the parish and the company gets to keep the land and the land rights and any leases out for hunting...so he's making money on my mitigation. [...] I'm not reaping any benefits for my people if I go outside my political boundaries.

(07/22/05)

I always require mitigation to be kept onsite for parish property issues. I'm very unsupportive of the whole idea of mitigation banks. One, because we don't have one in _____Parish, and two, because essentially that comes down, in my mind to robbing Peter to pay Paul. [...] That allows applicants to get off easy, honestly, and I don't think that given our current situation in the context of coastal land loss that we need to be supporting that kind of practice where you get to chew up a couple of acres and then just write a check out... [...] I don't think the State's tough enough on mitigation. I just don't. I think that they allow things to happen without an adequate repayment for impacts.

(05/06/05)

Truly you can get almost anything with doing mitigation. I find it hard to believe that mitigation really compensates for what's destroyed.

(05/06/05)

A third major theme is the LCP process – development of the program, start-up difficulties, adaptations and shifts within the local structure. Some spoke to a long approval process that involves both local parish government and DNR:

The process was relatively smooth because I don't think it had to go to the council too many times to get approved. Whereas some of the other parishes I'm aware of, have never had their program approved by the full Council...I guess they really have heard horror stories about how the program works.

(07/22/05)

We've got a program – our first draft was probably mid 1970s. [...] It was in the 80's that some of our major landowners could not accept some of the management designations...the labels that were proposed to be placed on their property. [...] I think the word binding agreement scares locals [...] I'm going to have to hire somebody to do this again – update the legislative references...when drafts are two years apart...the legislative references are a big—

(07/21/05)

Many parishes contracted with local professionals to have their local coastal zone management comprehensive plan developed, and while the plans are extensively detailed, the translation of them to local implementers was problematic in some instances:

From what I gather all they did was put the whole thing together and then sent it to Baton Rouge and waited. But when I arrived there was no one here to tell me what I had to do. I didn't know which direction to take the first step. My superiors, none of them knew. I had to attend meetings and learn how to do all of this on my own, and it took some time. It was very complicated.

(3/17/05)

I really came into it (CZM) not knowing much except for being a little nosy and trying to understand the administrative end when I was just doing fieldwork. If it hadn't have been for the State's (DNR) help, I would've been lost. And I was lost until they helped me out, so I think they're really sincere.

(03/16/05)

In LCP parishes, the local coastal program is nested with CZM duties, which in turn are typically placed within various parish government departments such as Planning and Zoning or Works and Operations. This allows for staffing efficiencies and access to existing resources. Sometimes however, this can leave LCP/CZM administrators feeling a little stretched. Respondents commented on changes or adjustments in the staffing and structure of their programs.

The administration has hired a director...now that person's supposed to do this job (LCP), restoration and regulatory coastal zone management...they're supposed to have the director and a clerk. They chose the director, so me – I'll have to be gone somewhere. I'll get ridden off, I guess. And the new director will have to do it all [...] According to the budget, there was only going to be two people...they want somebody with sales experience to go to Washington.

(03/17/05)

At one point we had five people...when I first started I was hired as a field tech. We had a secretary, someone doing seismic work and someone hired to run the permit information center...but that was only a six month contract...I assume the responsibilities were passed on to the administrator.[...] And now we're down to one person...trying to see how much they can get done out of one person I guess. But its very difficult because the work hasn't slowed down. [...] Recently we took a little change and added another person to our coastal zone program and now I'm just going to deal with mainly the permit end. [...] I think the focus was to get him (new administrator) to step up that (lobbying) effort and attend all the meetings that we possibly can.

(03/16/05)

As a coastal zone manager I review all (state) permit applications ...probably the other half of the coastal zone job is the coastal restoration department, which I consider myself a whole lot better at than the management side...I act as the assistant director of planning...so I've got planning/zoning responsibilities too. And I'm also the flood plain manager. [...] We operate like an approved local program – the only thing we don't do is paperwork... I'd have to hire someone to do the paperwork...

(07/21/05)

These examples point to not only key actor strategies at work, as some parishes attempt a stronger presence in state and federal forums, but also the contraction and expansion of organizational structure for local coastal programs in relation to economic efficiencies. The adequacy of funding for the local coastal program evokes mixed reaction, and in the following quotes, the effects of tenuous funding on time allocations and human resources are seen:

Operating this program is a grant from NOAA essentially, but that's a fixed amount (matched with) in kind contributions... I mean that's part of my salary and what I do with public outreach. One of the things on the front burner right now is getting an inspector in the parish to kind of monitor directly coastal issues and compliance...There's only so much I can do from behind a desk. There isn't any more money that can go towards helping to fund that position. It would have to be taken out of what we get already. So as far as expansion goes, we could expand (LCP tasks) but it would be the parish taking on the full expense of it.

(05/06/05)

In turn (for the LCP) the state pays for part of your program administration – it would be a very small percentage of our budget, so that's not a huge carrot.

(07/21/05)

We get a grant every year that Congress is threatening to cut...we get to hire consultants to help us with the permits and do public education work....There's a lot of maintenance being done on pipelines but we have _____ and one technician in the coastal program, so we don't have the personnel to (monitor) that.

(05/06/05)

We got money to start...there's other funding opportunities that we can take advantage of – grants and things...but the permit end is so involved as well as other things that I got going on that I just do not have time for grants now.

(03/16/05)

In a fourth major theme, LCP respondents talked about the many *benefits of an LCP* to the parish. These emerge as sub-themes and include the availability of extra **non-monetary resources** (i.e. training, expertise, network building), **synergies** created between their Local Coastal Program and CWPPRA projects, increasing recognition and acceptance of **local voice**, improved multi-tiered and lateral **relationships** facilitating knowledge exchange, and the hand's on **community education and assistance** performed by LCP administrator.

On the availability of non-monetary resources, respondents mentioned training available to LCP administrators to facilitate smoother transition over to a digital format in permitting. Respondents recalled the workshops for the SONRIS – GIS online system provided by DNR. In addition to guest speakers at the LCP quarterly meetings, various offices within the Louisiana Department of Natural Resources also hosted special topic seminars from time to time.

In speaking about how the LCP had benefited the CWPPRA project development process, one respondent commented on the importance of cooperative relationships in fostering synergistic dynamics.

The (advisory) board – with all the environmental knowledge in preserving the wetlands and coastlines...everybody working together. You pick up a little information here...a little from this one...you can put two and two together. You come up with a good plan.[...] LCP – it's a regulatory program. My committee is also a restoration committee – coastal restoration work.

(03/17/05)

Other respondents mentioned that the advisory panel is “very involved with CWPPRA” and that the meetings, be they regulatory (LCP), department (operations) or specifically CWPPRA related, provided opportunities for a lot of discussion – and a lot of cooperative learning. Yet another respondent mentioned the importance of both formal and informal connections.

We have a coastal stakeholder committee...somewhere around 30 or 40 people...we gather them each year to plan CWPPRA projects. [...] we have these relationships with people out there and we get feedback from them kind of unofficially which is sometimes easier.

(05/06/05)

Respondents noted that they thought that the State usually took the comments from the parish seriously, and tried to accommodate adjustments to a permit based on those comments. Increased recognition and acceptance of local voice had occurred over time. Several respondents noted that they had been in their position a long time and knew key actors in their parish, in other parishes, in state agencies and in local federal agency presence. One respondent described the LCP-DNR relationship as giving them a more exclusive access to the regulatory agency and the process:

[...] The LCP is great in that it allows you – how's the best way to put this – the secret knock on the door to the regulator agencies. Without the program, its much more complicated and difficult to get a foot into DNR's office [...] and say this is something that concerns me, or this is a change that should be made in something that's proposed in my parish.... (05/06/05)

In a related sub-theme, respondents attributed improved relationships, both lateral and multi-tiered, to their participation in Local Coastal Program. One respondent talked about a kind of 'open door' policy with agency personnel:

I speak with the agencies all the time. Whenever a permit application needs doing, I get called and [...] I have people at DNR (I can) call anytime and they always willing to help. The Corps does too – if I call – but I have to get onto them over there.[...] DNR field agents...we go out (on inspections) together. [...] I talk with ____ pretty often. I call him and see what's going on over there. Not so much the other (parishes) – not too much. Its usually the (LCP) quarterly meeting where we usually see everybody and talk and see what's going on. (03/17/05)

Still others spoke of the good neighbor relationship they maintain with adjacent parish CZM Administrators and the constant exchange of information. They emphasized that attendance at the LCP Quarterly meetings is largely responsible for maintaining this flow of information and nurturing of relationships. One respondent mentioned recent changes to the executive administration of DNR strengthening ties and communication between the locals and the state:

Really, we (state and parishes) have good communication. The new Secretary (DNR), Scott Angelle, he was a parish president, so he is very tuned into the locals. We call him up you know. I have a lot of respect for the staff at DNR. They've opened the doors, you know – any information we need. We work together on projects. (05/06/05)

Another respondent articulated the import and placement of the LCP in the permit application process, and although it is specifically directed to permitting, acknowledged that the Local Coastal Program facilitates contact with the public.

So I think that's where (LCPs) work – in between the applicant and the agencies. [...] (Parishes without LCPs) are missing opportunities to work with people. (03/16/05)

But there are other respondents who fully realize the potential for community education and often administrators "go talk at civic meetings and keep them (constituents) updated".

(LCP has) the potential to do a lot with outreach and bringing the idea of how the program operates to the general population. (05/06/05)

Other respondents see their role as helping clients work through applications. Many commented on the difficulty of terminology and that its hard for the “mom and pops” who don’t have the education or financial resources to hire consultants to navigate the system for them. One respondent saw this role as important enough to work on it at home, because there just weren’t enough office hours.

A lot of people they don’t even know where to start. They get the application, the first question, they on the phone calling. They don’t understand the language...some of the terms. In fact, I have one right here. The man’s in Alaska ...and there’s all kinds of screw-ups on it. I’m going to take it home tonight ...do it at home because tomorrow I’ll be busy all day

(03/17/05)

But again, this last respondent’s comment underscores the issue of CZM-LCP Administrators feeling stretched to the limit. It shouldn’t be surprising that some administrators might wish for more self-reliant applicants. As one respondent put it, “I would like the applicants to have knowledge...rely on themselves a little more...”(03/16/05). Still another respondent saw the role of assisting clients as extending beyond the permit process and into the area of violation remediation and education.

And I said to (a community resident with a violation), ‘You did something wrong and you may have to mitigate. [...] We’ll work through this, with the parishes help. I’m not going to be on either side...be on the law’s side’.

(07/22/05)

Another perceived benefit of an LCP involves the development of process strategies. Respondents from different parishes described innovations in exerting local influence on what they perceive as a regulatory process with little in the way of regulation at the state concern level.

You need to be a little creative in how you do things. Its very difficult for the Corps or DNR to just stop a permit in its tracks... What I’ve found is, if I have an application and I have a problem with a [permit of] state concern, I just got to send a letter saying ‘not enough information’ or ‘we requested representation, nobody showed up – we want the permit to stop’. They’ll [DNR] do it, because then they have something in the file that gives them...say...well we have to put the brakes on because this parish has a concern that you need to go and address. And even after the permit is issued....

(07/22/05)

If a company wants to drill a well in _____ Parish, they obviously apply to the State for a Coastal Use permit, but they also need to apply for a parish issued construction permit. The Corps will issue a permit, the State (DNR) will issue a permit, and then hopefully the parish will issue a permit, usually as a follow-up to those two agencies. Now that's just basically a way for the parish to maintain some sort of autonomy and authority in regulating what kinds of activities happen in our back yard, because without the parish permitting procedure, then whatever the State and the Corps said was allowable would just move through and there wouldn't be an other real input or conditioning of activities that the parish could implement.
(05/06/05)

There are strategies in place as well, to shape interactions with evaders. Some respondents described a 'good cop; bad cop' strategy where the state was placed in the role of the 'bad cop' taking the local 'heat' from enforcement issues.

We got one farmer tearing apart some wetlands. He got caught on a fly-over – state does a fly-over every so often. (DNR) brought it to my attention, so I went and took pictures. I called DNR and said 'yes it looks like he's clearing some wetlands without a permit'. So DNR...says 'OK – about this violation, how do you want to handle it? This is your program'. 'I'm connected – I *don't* want to handle it – I want *you* to handle it'. They say 'fine'. So I don't have to take the heat on local issues if I see its going to be a problem. This farmer knows most of the elected officials..."
(07/22/05)

Still another described a kind of collusion with the public regarding 'oversight' of permitted activities:

We have a good rapport with the people...they'll call us and say 'this permit said they were going to dredge this many feet and we think they're dredging more', and _____ will go out there with a depth finder and in one case, we found they were dredging deeper. We turned it over to DNR for permit violation.
(05/06/05)

In a last theme, some LCP respondents noted that there had been considerable *improvements within the Louisiana Department of Natural Resources* in recent years that in turn, facilitates better rapport between DNR and local governments. In this quote, a respondent explained what relations with DNR were like 'before' and 'after' some restructuring:

The program has made vast improvements in the past 6 or 7 years. The connection between the state and local program was practically non-existent prior to that. I mean you couldn't call anybody in the state and get a response to something or you might actually question and it would take you a couple of days or a week to get it back. Since they've gone through some reorganization as a state – DNR – its made a big difference. Right now, if they don't know the

answer, they'll get back to you same day or the next day. And they starting to make sure that they follow the letter of the law. I mean, our program was basically 'you're on your own'. You got so much money per month to run your program and as long as you turn in your reports nobody cared, but I don't think anybody looked at the reports. Now, every quarter they go through and review your files...which is the way the program is supposed to work.

(07/22/05)

Discussion of interview themes in conjunction with other qualitative data

Non-LCP parishes

Themes from interviews with respondents from non-LCP parishes reveal highly generalized and sometimes inaccurate perceptions of the local coastal program. Further, despite being the designated CZM contacts for a parish, coastal zone management knowledge among these respondents is also inconsistent and in some cases, absent. That there appears to have been disparate promotion of the local coastal program in some parishes is addressed in an interview with a state official: "I don't know that the state ever really, quote unquote, ever really envisioned all of the parishes participating. There are a few parishes who have only a very small amount of property" (07/05/05).

While some respondents articulate an economic resistance to developing an LCP, that is, the LCP in the view of the parish fails the cost/benefit analysis, there are also underlying political motives. The respondent from the state commented:

...permitting...is just not what they want to be seen involved with or recommending. It is at its core, land use, planning and regulation...we have parishes that do not have zoning. I have pointed out...even if you don't develop a local coastal program, that doesn't mean that your constituents are not going to be regulated. We're going to do that from Baton Rouge. Wouldn't you rather do it and the answer is 'No – we're perfectly happy to let you.

It was discerned by some people that this program would regulate their land uses, which would be detrimental to their interests. (07/05/05)

The abdication of opportunities for local autonomy is enhanced by a lack of urgency toward coastal matters in the perceptions of non-LCP respondents. It is a perspective that has been perhaps unintentionally supported by the selective promotion of the program among parishes by DNR.

Intuitively, a reliance on external decision-making contributes to limited growth of a knowledge base in coastal zone management issues, both in regulation and restoration, in parishes that have opted out of the program. It is not surprising to hear with few exceptions, non-LCP parish respondents describe networks that are more localized both in geography and issue orientation. Communications with adjacent parishes, or with agency personnel on CZM matters typically occur on an issue or problem basis and are sporadic. While all coastal zone parishes are members of PACE, activity with that organization among non-LCP parishes is in most cases minimal. Moreover, because the organization has a primarily political agenda it is typical for the parish presidents to be the representatives attending meetings – not the CZM administrators. A similar trend is in evidence with the Louisiana Coastal Coalition, a loosely bonded organization of parishes working together to forward specific and mutual political/economic mandates. Respondents describe more regional and state networking as a function of parish operations apart from coastal zone management, (i.e. LA Parish Engineers or Flood Plain Managers or Waterways Commission). Only one respondent had made an effort to regularly attend LCP quarterly meetings, and that one respondent was able to describe the benefits of networked knowledge that he garnered as a result. As presented in a previous quote, one respondent was unenthused about the LCP quarterly meeting, classifying it as ‘another meeting’. Even though he acknowledged that meeting agendas had improved, he had not been back. Attendance of non-LCP parishes at an LCP quarterly meeting, as acknowledged by the state official, “runs in spurts...I think to some respect its issue driven”.

LCP parishes

The themes from interviews with respondents from LCP parishes feature issues specific to the local coastal program and coastal zone management in Louisiana. Several respondents noted the *disjunction between coastal management and coastal restoration* at the state level. A perception of disjunction, however, was minimized in state level remarks:

...look at the office of coastal restoration and management. You have extensively kind of an advisory committee – that’s restoration...coastal restoration. And then you have coastal management – that’s the LCP side...the regulatory side. Up here we have everybody. We have those people who are looking at and for projects (restoration). We have those people that are looking at, well...what you are doing with that piece of property (regulation). (*I: Do you talk to one another?*) Oh yeah... (07/05/05)

Mitigation issues concerning mitigation banks, on-site mitigation, between agency and state/federal levels inconsistencies on costs per acre for mitigating, and the consideration of local input are of significant concern to respondents from LCP parishes. These issues are also present at meetings observed (Council, CZM/LCP local meeting, LCP quarterly meeting). One attendee at the LCP Quarterly meeting (03/25/05) stated that he usually stipulates on-site mitigation – not mitigation bank. He claimed that state program caters to oil and gas resulting in ineffective and overly cheap ways to meet mitigation requirements. Another attendee affirmed that mitigation bank should be last option – not the first. Still another member had this to say: “Even if LCP has mitigation requirement in local area, state and feds reject this mitigation and insist on contribution to a mitigation bank”(03/25/05). Recall that at least one parish had developed a locally administered parish construction permit in addition to CZM and LCP permits to ensure some local control over contentions such as these. At a local CZM/LCP advisory panel meeting (05/17/05), participants discussed the deleterious effects of a state permitted wheel washing²² site. Saltwater was now coming in and destroying restored vegetation in adjacent restoration project area. No mitigation had been assigned on this permit. “We (panel) must learn from this...we must send a message to the state to do what is reasonable. The state is trying to streamline process – translation: less scrutiny, looser regulations, loose compliance. The parish needs to send strong positive message to the state”.

With regard to the *LCP process* theme, two issues emerge in other data sources. The first involves the effects of cutbacks. At a Council meeting discussing permits, one

²² Wheel, propeller or prop washing – in a marine application, this refers to the astern thrust of water from the spinning of propeller blades that in turn causes the disturbance of bottom sediments. It is an inexpensive method of dredging.

council member noted, “we used to have two seismic people retained by the parish to go into the field with oil companies to ensure no damage, but these were lost in budget cuts” (02/12/04). At the CZM/LCP meeting (05/17/05), steps are taken to reduce the overburdening of limited CZM/LCP personnel. Members of the panel and CZM staff work together in oversight tasks such as attending a channel depth measurement being conducted to ensure compliance with permitted depth. Cutbacks form an issue at the state level as well. Intermittent funding to the local coastal program can be loosely linked to the intermittent participation of parishes in developing LCPs:

For several years after the passage of the Act,²³ we provided developmental funds on an as needed or as requested basis to parishes for them to develop their local coastal program...that money does not exist anymore. We managed to get a few dollars a few years back and hence what precipitated those two parishes into at least starting the process again.

(I: How interested is DNR in promoting the local coastal program?) That depends on the administration [...] There's not ever actually, it would not be fair to say that they ever, anyone ever actually said don't go out and try to do that. (I: But there are passive ways so send that message.) Well, if you don't have any money, and nobody is pushing you to do things, it becomes that.

(07/05/05)

The second and related issue is the practice of contracting with consultants to provide the necessary expertise to the parish both in development and maintenance of programmatic expertise. Acknowledged at the state level, “it costs money to hire planners to write the documents. [...] You've got to hire on people temporarily or... a bunch of people chose the consultant route” (07/05/05).

Either way, as demonstrated in some of the parish respondent interviews, when experts depart from the process often specialized knowledge becomes a casualty of funding shrinkage. As with cutbacks, this too is not isolated to adequate staffing and maintenance of specialized knowledge at the parish level. It is in evidence at the state level, where it has impeded possibilities of closing the restoration – regulation gap:

When we launched Coast 2050, the administrator for coastal restoration got together and said look, we need to work together. We went on a campaign, and we went back and forth talking to all of the parishes, and we got them involved...we got them to sign off (on Coast 2050). It took a lot of effort. And

²³ State and Local Coastal Resources Management Act (SLCRMA) of 1978.

I've got other people saying, 'Where's that consistency determination?' ... At the same time we were trying to finish getting through the development and begin implementation of a coast wide storm water runoff non-point pollution program. So its not easy...losing staff...and still losing staff. Lost yet another consistency position last year...the budget cuts, they are—They (DNR administration) don't view these programs as that terribly significant to the overall effort. [...] I really don't see that there's going to be, in at least the next 3 years, a significant change in the belief of importance of consistency or local programs or coastal zones.
(07/05/05)

Of the sub-themes of *LCP benefits*, the two also present in the additional data sources focus on synergy and improved lateral and multi-tiered relationships. From a structural perspective, the value of the LCP for providing a foundation for synergy is recognized in the following passage:

In '89 they passed the Act²⁴ that created the office of coastal restoration and management. Well that started to peak some interest because people were saying 'they are going to pay attention to coastal parishes now'. So when they started to develop projects (CWPPRA) some parishes found, I think, through the infrastructure of the local coastal program they had coastal advisory committees, they had all these things set up. They were ready to go. They said 'oh yeah, we have the structure'. So it was able to assist, in my opinion, some parishes to get ahead of the curve with respect to being in a position to enter into the restorations process the way it wound up being developed.
(07/25/05)

In conjunction with structure, the importance of relational networks and the social interactions within them is demonstrated repeatedly. An example of synergy and relationships is the cross-pollination of CZM panel and parish council in the body of one person. At a monthly council meeting, during the hearing of construction permits for oil and gas activities questions were fielded by a council member who is versed in coastal zone issues –from management and restoration perspectives (02/12/04). The practice of having key actors who fulfill several functions was observed in several parishes. This building of a local nucleus of individuals with local knowledge and connections through formal and informal relationships with commissions, appointed boards, state and federal agencies that have been forged over many years, facilitates synergy. The informal ease with which one parish transitioned from pre-meeting alligator jambalaya to permitting issues; the well-known reputation of another parish for having well-attended and 'lively'

²⁴ Coastal Wetlands Conservation, Restoration and Management Act (1989).

meetings (“That’s about as active as you can get without a full scale riot!” – 07/05/05); the proactive sustainable leanings of another advisory panel offsetting a pro-development council – all examples of relationship styles that foster communication and knowledge exchange. As the next paragraph containing an example of synergy and relationships shows, it is at the local level where mandate wrinkles might be ironed out.

In a parish CZM/LCP meeting (05/17/05), the agenda and discussions that follow feature issues regarding permits that interface with issues regarding CWPPRA projects. The meeting becomes a ‘think tank’ where coastal restoration links up with coastal management and relational strategies unfold. In discussing a sediment capture project to be submitted for CWPPRA funding, a federal agent offers to look into NRCS²⁵ sponsoring the project – he thereby creates an *entrée* and strengthens relational perceptions. Commenting on the wheel washing permit and the effects on a restoration test area, the agent notes, “DNR historically negatively comments on ALL hydro restoration projects”. Through this, he indicates a concern over DNR’s ‘take’ on permits – and offers this as a shared concern. Later in the discussion, the agent offers strategy suggestions to the parish for putting forward project nominations (05/17/05). Multiple tasks have been accomplished and an informal alliance trading in information has been forged.

In the next chapter, I discuss findings from the previous chapters and themes from this one within the contexts of resource mobilization theory and social construction theory, matching findings to theory. Through this process of pattern matching, I determine which rival theory best explains the findings of this study. In a final discussion section, I then summarize the findings of the study and suggest future directions for research.

²⁵ Natural Resources Conservation Service – federal agency under the US Department of Agriculture

CHAPTER VII

RIVAL THEORIES, CONCLUSIONS, FUTURE DIRECTIONS AND EPILOGUE

In this final chapter I review characteristics belonging to the rival theories. I then summarize the findings from this study, matching them to resource mobilization theory or social construction theory to compare the explanations these rival theories offer. I conclude with a summary discussion of the work and suggest some future avenues of research indicated by the findings from this research.

Rival theory comparison

A review of characteristics discussed in Chapter II distinctly associated with each of the rival theories is presented in Table 25. While by no means an exhaustive list for either theory, I have listed characteristics that align more specifically with one theory or the other. A brief comparison of these characteristics clarifies the relationships of the theories to the findings and themes from this study. Patterns of findings are then matched to resource mobilization theory or social construction theory in the discussion that follows.

Table 25. A comparison of characteristics from resource mobilization theory and social construction theory.

Resource Mobilization	Social Construction
Political opportunity Legitimated mandate Means (resources) Perception that participation is necessary to get the benefit Existing organizational structure Existing ideological/cultural network or formal organizational ideology Goal with constituency support Benefits outweigh costs Expectation of success Selective incentive	Interaction dynamic Cooperation and trust Norms, beliefs, attitudes Internalization of values and roles through exposure Frame reassessment / renegotiation Interaction within context of situational environment Interpretation and adaptation

The focus of resource mobilization theory is predominately on structural/functional components such as existing organization, provision of resources and opportunities to accomplish the goal, legitimated mandate, specific goal or problem with constituency support, benefits that outweigh the costs and a collective expectation of success. RM theory assumes a fixed ideology, rational decision-making, and existing, positioned networks. Value or benefit is assessed in terms of utility. Conversely, the focus of social construction theory is on social dynamics – constant interpretation of incoming information used in the assessment and renegotiation of constructed frames. When social construction theory references networks, the focus is not on the structure itself but on the interactional dynamics within and between. With ideology, SC theory is concerned about what informs it (values, norms, beliefs, attitudes) and how its salience and substance changes over time as a result of experience and interaction with others.

Following after Yin's (1993) rival theory comparison, I have matched findings and themes from my study to the appropriate theory to discover the relative strengths of resource mobilization theory and the relative strengths of social interaction theory for explaining differential LCP development in parishes and the differential presence of regulator framing.

Resource mobilization theory matches

Findings and themes from the research that match the characteristics associated with resource mobilization theory are summarized in Table 26 and discussed in the following paragraphs. For comparison, summarized characteristics have been separated into LCP or non-LCP. The table is divided as well to show the presence and absence of characteristics where supported by findings. As is seen in the table, many of the characteristics associated with resource mobilization theory are present on the LCP side of the table. Exceptions include the incoherencies between federal, state and local mandates for mitigation stemming from incompatible mandates from within LADNR, funding inconsistencies, and programmatic streamlining of knowledge transfer. Conversely, more characteristics are absent with non-LCPs.

Table 26. Findings and themes consistent with resource mobilization theory grouped by LCP or non-LCP parish

LCP – RM characteristics present	Non-LCP – RM characteristics present
Consistent fed/state/local regulatory mandate Local coastal program structure Existing organizational structure Existing personnel in local government Population density – resources/organization Legitimized goal Start-up & maintenance resources Benefits outweigh costs Expectation of success Opportunity to participate Selective incentive	Consistent fed/state/local regulatory mandate Existing organizational structure Existing personnel in local government Start-up & maintenance resources Opportunity to participate Selective incentive
LCP – RM characteristics absent	Non-LCP – RM characteristics absent
Consistent and adequate funding Resource coherencies in mitigation Knowledge transfer at start-up	Consistent and adequate funding Benefits outweigh costs Specialized skills Legitimized goal Expectation of success Resource coherencies in mitigation Knowledge transfer at startup

Resource mobilization theory asserts that collective action can be achieved with adequate resources, existing organizational structure, a salient goal and selective incentives. The purpose of the LCP program as designed and implemented by LADNR, is to recruit parishes (initiate collective action) into the state CZM program. The LCP program establishes a legitimated mandate, means and opportunity for participation, and targets the existing structure of local government. In order for parishes to realize benefits from the program (autonomy in local permitting, capacity-building), participation in the Local Coastal Program is necessary. The federal funds to start and maintain the program are selective incentives. Because program development requires enabling local legislation, where a program exists, constituency support is assumed and affirmed in the findings. A formal ideology is provided from the lead agency (LADNR). This is delivered through a clearly defined developmental protocol and the formulation of a comprehensive document. Internal programmatic consistencies are provided by a

clear federal/state/local mandate. Another structural characteristic found in this study to increase likelihood of regulator framing is the CZM advisory panel. In most cases, this panel was an already existing structural component with similar functions prior to its extended use as the parish LCP advisory panel.

The finding of a positive relationship between oil and gas activity and LCP development was unexpected because of the anti-regulatory position of the industry and the regional economic dependency on it. However respondents' statements regarding establishing more local control over what is permitted in their parish, and also in the case of one parish, the institution of a revenue-producing and control-enhancing parish construction permit, suggests that this finding can be explained from a resource mobilization perspective. It is a shared goal with high utility, and for which the means and political opportunity are provided through or in association with a parish LCP.

On the negative side, when impediments to developing an LCP are examined, respondents reasoned that the Local Coastal Program fails the cost/benefit test. Inadequate and inconsistent funding, the paper heavy and lengthy process of comprehensive plan development, the additional resources required in matching funds and personnel, and specialized skills (consultants - grant-writing, engineering, scientific) required to put the local program together are resources – time, financial and human resources – precious commodities for resource-strapped parishes. Add to this the political contentiousness of mitigation costs ('can of worms') and land use issues (relates to use revenues and land value), and arguments for a Local Coastal Program on the basis of utility appear less compelling. However, while resource mobilization theory can explain why the LCP fails the cost/benefit test in some parishes, it does not offer an explanation as to why it passes the test in others.

While the mandate of the Local Coastal Program is clear, competing mandates in the lead agency (LADNR) foster confusion. The conflicts and incoherencies in coastal zone management resulting from structural and mandate disjunctions between the regulatory arm and the restoration arm of the LADNR also can be explained by the RM perspective as failed consistency between intersecting federal, state, and local policy

mandates. As to the veto power a single agency can exert over a permit, this too can be explained by RM theory. It can be argued that a utilitarian valuation treats wetland mitigation as a commodity²⁶ thereby facilitating cost-setting inconsistencies and inequitable mitigation bank practices.

The absence of knowledge transfer from the consultant-dependent start-up phase to the maintenance phase of some LCPs is a programmatic resource failure. And the proclivity of several parish administrations to stretch CZM personnel over a broad range of duties, thereby stretching the application of funds attached to the CZM position, falls within the negative range of either resource adequacies or program controls over local allocations.

Social construction theory matches

Findings and themes from the research that match the characteristics associated with social construction theory are summarized in Table 27 and discussed in the following paragraphs. As with RM characteristics, findings and themes have been summarized and grouped into LCP or non-LCP, and also the presence or absence of characteristics as supported by findings. A pattern similar to that in Table 26 emerges when comparing LCP findings with non-LCP findings in that there is a greater presence of SC characteristics in the findings from LCP parishes compared to the findings from non-LCP parishes. Noteworthy is the absence of interaction in situational context for most parish council or policy jury members. Among this group of respondents for both LCP and non-LCP parishes, most CZM/LCP interaction is limited to cursory passing of recommendations by the LCP/CZM Administrator. In some parishes, even this interaction is absent on local permits. Social construction theory thus offers an explanation as to the less frequent presence of regulator framing among council/jury members.

The positive relationship between SEI scores and regulator framing is found across LCP and non-LCP respondents. While higher SEI levels indicate more access to

²⁶ The economic incentives and privatization of mitigation in Louisiana is discussed in Yates (1999).

Table 27. Findings and themes consistent with social construction theory grouped by LCP or non-LCP parish

LCP – SC characteristics present	Non-LCP – SC characteristics present
Internalization of regulator role/frame (panel) Interact in situational contexts (panel/admin) Pro-regulator norms, beliefs, attitudes Mutual trust / cooperation (local, state, fed) Frame assessment / renegotiation CZM interactions frequent, varied, extra-local SEI scores influence framing	SEI scores influence framing
LCP – SC characteristics absent	Non-LCP – SC characteristics absent
Interaction in situational context (council/jury)	Internalization of regulator role/frame Interaction in LCP situational context Pro-regulator norms, beliefs, attitudes Frame assessment / renegotiation diminished Mutual trust / cooperation (local, state, fed) CZM interactions limited / local

resources, it is useful to recall that income measures at the parish level (HH income and property value) were not associated with LCP development and resource dependent occupations (the driver behind income levels in the region) had no influence on regulator framing. In addition to economic indicators, SEI scores are comprised of several social indicators such as education, expertise, occupational prestige, and status. These are concepts of worth constructed by social values, beliefs, norms, and attitudes. As described in Chapter II, higher SEI scores are linked to concepts of environmentalism, stewardship and global awareness. Social construction theory offers an explanation for the positive association between regulator framing and SEI scores as the effect of cultural capital on framing; why the LCP passes the cost/benefit test for some respondents but not for others.

The finding that the influence of LCP development on regulator framing is strongest with the New LCP category (LCP age 1 – 5yrs), thereafter diminishing suggests a change in social dynamics. Respondents spoke of the reliance on the state agency to provide training and guidance as their new LCPs transitioned from developmental to maintenance mode in the early years. Because interaction with the

regulatory agency is heightened during this time, the likelihood that roles and values of the lead agency will be internalized through exposure at this time are also heightened. The reliance on state agency leadership, the focus on consistency in permitting and the rule-following vigilance in taking over permitting responsibilities, contribute to the new LCP participants embracing the regulatory framing of the lead agency.

As to the diminishing effects of LCP development on regulator framing, as groups build more autonomy and broader connections, interactions become more varied. Less frequent interaction with the lead agency diminishes exposure to the regulator frame. Participants, particularly panel members, become more aware of the disjunctions between the regulatory arm and the restorative arm of the lead agency (LADNR), and increasingly concerned about the ramifications this has to sustainable activity in their parish. Because of synergies created by the multipurpose activities of the CZM panel and key actor members, these more mature LCP parishes may focus less on the singular purpose of the state regulatory program and more on balancing regulation with restoration. This broadening of focus (frame renegotiation) may cause respondents from these parishes to migrate from a pure regulator frame to a more moderate frame that favors regulator ideology but accommodates other interests as well.

LCP respondents participate in CZM/LCP related activities and interact with others more frequently, coming together within CZM/LCP situational contexts. Most group interaction around LCP issues occurs within the advisory panel and this is in line with the finding that advisory panel members are more likely to exhibit regulator framing. The improved relations and increased local voice of which LCP respondents speak support the social construction concept of building mutual trust and cooperation over time through multiple interactions between federal, state and local participants in CZM/LCP activities. Cooperative efforts with state agents can be seen in the good cop/bad cop strategies LCP Administrators employ to perform local enforcement tasks.

Frequent opportunities for varied interactions organized around CZM/LCP issues facilitate new information, frame assessment and renegotiation. Parishes with diminished opportunities for CZM/LCP interaction also have fewer opportunities for

frames assessment and renegotiation. As this study shows, non-LCP parishes are less likely to embrace new ideas and information that runs contrary to local beliefs, attitudes, norms and values. This speaks to the resistance to LCP development and the salience of coastal issues. While salience of physical vulnerability to coastal hazards is high for all respondents, the ability to translate impacts from physical hazards to social impacts was diminished for those from non-LCP parishes. Physical vulnerability in southern Louisiana has been a political platform and media focus for many years. High salience of physical vulnerabilities is expected and confirmed. But for non-LCP parishes, this is arms length salience – that is, they perceive coastal hazards and vulnerability to them as less relevant to their parish as compared to other parishes. The social impacts from coastal hazards are more distant still. This perception has not been helped by perceived disparities in LADNR's promotion of the LCP program among remaining parishes. LCP respondents regardless of their geography, not only understand coastal issues to be salient, but go further to make the connections between physical vulnerabilities and social vulnerabilities. This points to a vast difference in frames assessment and renegotiation done by LCP respondents and non-LCP respondents.

Summary comparison of rival theories

Both resource mobilization theory and social construction theory are useful in conceptualizing and explaining components of this study. To determine which theory offers more explanatory power, it is necessary to recall the research question: If all coastal parishes have the same opportunities to develop an LCP and are offered the same developmental incentives and guidance, why are coastal parishes experiencing different levels of capacity-building?

The Local Coastal Program appears to meet most of the characteristics specified in the resource mobilization theoretical model. Further, those characteristics not met constitute some of the developmental impediments indicated in this study. However, resource mobilization fails to explain why LCP respondents as a group and non-LCP respondents as a group display different reasoning when it comes to cost/benefit analysis

of the program. It fails to explain why autonomy and local voice in coastal zone management are attractive benefits to some parishes but not to others. Considering that LCP parishes are greatly varied (i.e. geography, permit activity, local government form, administrative size, population), it does not explain why the incentives to motivate participation are adequate for some parishes and not for others. Even considering recent decreases in funding, when start-up funding was there, why did some parishes opt in and others not? Why do LCP respondents despite disparate permit activity from parish to parish, indicate that having an LCP is worthwhile and that the benefits outweigh the costs? Resource mobilization theory does not provide satisfactory explanation for these questions, and thus does not, by itself, adequately explain different levels of capacity-building.

Social construction theory is powerful in explaining how social interaction works within and among structural elements and groups of individuals. SC explains how different framing shapes the interpretation of essentially the same things, thus explaining the differential appeal of incentives and program worth among respondents. Because the framing process is directly affected by where, how much, how frequently, and with whom information is exchanged, social construction explains how frames are shaped and how different kinds of interactions lead to different kinds of framing. When CZM/LCP interactions are suppressed, information exchange and learning dynamics are also suppressed. Parishes with limited networks and limited interactions receive less information and have fewer opportunities to question their own frames. Social construction theory, therefore, offers a satisfactory explanation of the absence of regulator framing, the absence of LCP worth and the absence of programmatic participation.

While it is clear that most resource mobilization characteristics are necessary to programmatic participation, that is, RM theory provides a structural recipe for program development and implementation, by itself, it is insufficient. Conversely, social construction assumes social structure. With its focus on social dynamic, social construction theory offers powerful explanation of the differential LCP development in

parishes and the differential presence of regulator framing. Together, however, resource mobilization theory and social construction theory are more powerful in explaining the complex interfacings of the many structural components and social dynamic processes examined in this study. It is the complimentary use of the two theories that that best explains, within study parameters, the efficacy of LADNR's Local Coastal Program in building coastal management capacity at the local parish level.

Summary discussion of the research

Through the use of factors associated with resource mobilization theory and those associated with social construction theory, as related to the level of LCP development in each parish, the strength of each theory in explaining different levels of development between parishes has been examined. Social construction theory is the stronger theory in offering explanation of disparate Local Coastal Program participation and the efficacy of the state sponsored Local Coastal Program in building institutional capacity. The use of frames theory within the broader context of social construction theory has demonstrated its utility both theoretically and methodologically.

The findings of this study show that the Local Coastal Program is relatively effective in building local capacity in coastal management as prescribed by LADNR and within the confines of local regulatory activity. This is particularly visible in the early years of an LCP. As LCP participants become more practiced and sophisticated in coastal management, key local experts, broader connections and increased autonomy may foster a less myopic regulatory perspective. The level of agreement with the regulator frame decreased with the mature group of LCPs, which appears to suggest that local capacity diminishes as LCPs mature. The use of the presence of regulator frame as the indicator of programmatic capacity can only accommodate capacity measurement within the confines of Local Coastal Program ideology and mandate. This is not to say that other capacities do not exist and are not being built. This is also not to say that the LADNR prescription for institutional capacity builds capacity entirely conducive to sustainability and environmental stewardship.

Recalling from the literature that Coastal Zone Management has followed a top down expansion, starting with the federal government, then state programs and finally local programs. Every level has been faced with the problems of maintaining vertical consistency and lateral coherency while remaining sufficiently flexible to invite participation and allow some more localized autonomy. This can be seen in the variations of state CZM programs. A review of programmatic elements from federal to state to local programs brings the design criteria from the May and Burby (1997) implementation model to mind. However, the difficulty of consistency between these layers led to rules and regulations, segmentation and departmentalization. These have cultivated fragmentation. With fragmentation, the difficulty of coherency increases as mandates narrow. While coastal zone management studies reviewed in Chapter II have demonstrated vertical consistencies supporting a vertically integrated management system, this study of the point of delivery – local implementation – reveals a failure in lateral coherency.

The disjunction between restoration and regulatory management identified at the state level calls into question environmental sustainability in Louisiana and the state's ability to realize efficiencies in the use of resources. While the most recent NOAA Evaluation Report for the Louisiana Coastal Resources Program (2005) notes improvements to internal coordination between divisions, it calls for an expanded effort in mitigation, restoration and permitting; and cooperation in sharing resources and expertise, specifically "issues of beneficial use of dredged material, navigational channel dredging; and engineering assistance with special projects"(10). Acknowledging a recent Memorandum of Agreement between DNR and Louisiana Department of Wildlife and Fisheries, NOAA recommended that the Memorandum of Agreement (MOA) with the Department of Environmental Quality (DEQ) be revisited and updated from its 1980 form to include "all relevant coordination activities, including each agency's responsibilities under the Louisiana Coastal Nonpoint Pollution Control Program"(11). Updates of other agency MOAs were also encouraged. Inconsistencies within the oversight responsibilities of LADNR over parish LCPs were found, with 50% of LCP

parishes non-compliant in incorporating mitigation requirements into permitted activities. This calls into question the ability of the Local Coastal Program in its present form to promote and enact environmental sustainability. The Local Coastal Program is over narrow in its focus on permitting. State LCP administration has continued in efforts to provide information, facilitate training opportunities and retain contact with some non-LCP parishes. But inadequate state funding for the program, selective promotion among parishes, attenuated focus on citizen based outreach, and reductions in personnel to administer the state LCP program work against such efforts. All contribute to a reduced legitimacy and narrowed purpose.

In a bottom up move, many parishes have responded to coastal incoherencies by forming political and issue-driven coalitions, by placing local experts at the crossroads of restoration and regulation, and by integrating with regional NGOs – efforts to increase local capacity by using a resource they have in hand – human capacity. A local voice increasingly heard and acknowledged, the emergence of local experts in linchpin positions and the increasingly important roles they play in the Louisiana coastal management arena support the notion of a growing human capacity. But this human capacity must extend beyond a few local experts and a relative few parish panel members and administrators entrenched in CZM/LCP matters. It must extend to elected officials and to the public they represent.

Several findings in this study have revealed knowledge gaps. Two in particular are of immediate concern. The first involves the lack of engagement of most parish council or police jury members in coastal management activities. Recall that parish council or police jury members as a group had the lowest levels of agreement with regulator framing; in fact the group means were in the lower end of mixed framing. More respondents in this group exhibited regulated framing than any other group. While its not unexpected that elected parish officials would be swayed by anti-regulatory interests, it is troubling that this is augmented by a lack of engagement in a knowledge area that is critical to long-term parish well-being. Without active participation in coastal

management knowledge, there can be little hope that a balanced perspective will prevail in local decision-making.

The second concern is the obvious knowledge gap evident between parishes with a Local Coastal Program and parishes without one. Given the critical vulnerabilities of coastal Louisiana, without broad-based local comprehension of these vulnerabilities and of programs aimed at both regulatory and restorative coastal management, the efficacy of coastal management in Louisiana must be considered inadequate.

It is evident that local capacities in coastal management are building over and above, or perhaps in association with, those regulatory and institutional capacities facilitated through the Local Coastal Program. The head butting with state and federal agencies on mitigation issues that local representatives describe and the attempted reconciliation of state level mandate disjunctions at the local level would seem to point in this direction. Recalling the Tuler et al. (2002) bottom up strategies for program adoption and implementation, this local dynamic could be instructive and helpful to an expanded and restructured Local Coastal Program that bridges between regulation and restoration – and addresses coastal management from a more ecological perspective that integrates the natural, built and social environments.

Future directions

In this study I have assessed factors that potentially influence capacity-building and the presence of capacity in local coastal management in Louisiana. It must be noted however, that while this study has assessed the presence or absence of capacity as defined and indicated by the level of development of LCPs and regulator framing, it is limited in determining capacity-building outside of these definitional parameters. The findings specific to the LCPs in this study cannot be generalized to capacity-building in other parish programs nor can they be said to be absolutely representative of every coastal parish in Louisiana. However, because the multiple sources and layers of data have created a research domain of all coastal parishes, the relative importance of each theory in explaining findings is generalizable within the research domain (Yin,

1993;1994). The contribution of this study as to the utility of resource mobilization theory and social construction theory in explaining differences in programmatic implementation and institutional capacity building is an important aspect of the work. In this regard, it is important to note that many programmatic resources (incentives, funding, opportunity, training, consistency oversight) were controlled, so that the import of social construction theory in explaining findings is more clearly demonstrated. This is to say, that interaction and the networks that facilitate interaction have been clearly shown to be crucial to capacity-building. The facilitation and augmentation of networks therefore must be considered in program design and implementation, and in evaluations aimed at determining the efficacy of local programs. Research with this focus will be useful in examining the utility of other programs aimed at building local capacity.

The mandate and program incoherencies between DNR's coastal management division and coastal restoration division identified in this study, call for more research on the effects of this disjunction on the many aspects of 'on the ground' coastal restoration. Social research can be particularly helpful in bridging between regulatory and restorative arms of LADNR. A research focus that this study suggests, is one located at the nexus of state and local level, where an integrated examination of human, institutional and social capital research might lead to a more process-oriented measurement criteria for capacity and the efficacy of programs in building it.

The use of framing in this study has provided insights into coastal zone management at the local level. Closer examination of the frames and decision-making of local implementers as they struggle to negotiate middle ground with disjointed policy would be helpful in better understanding local capacities.

Another research agenda suggested by findings is the relationship between oil and gas activity and framing. The connection between TRI pounds released and LCP development suggests a dynamic not captured by the present study. Recalling that several measures of the numbers of facilities (oil wells, chemical plants, number of TRI facilities) had no significant effect on LCP development, an examination of social processes that inform respondent framing of TRI-associated risks and the comparison of

risk perceptions toward TRI emissions between LCP and Non-LCP respondents would be useful. If there is a positive relationship between TRI risk perception and LCP development, is this then translated through the Local Coastal Program to better management practices and better environmental stewardship?

As this study has illustrated, the Local Coastal Program in Louisiana is a capacity-building tool whose purpose has been somewhat truncated by divisions within its lead agency. Until the Louisiana Department of Natural Resources solves the problem of cross-purposes, coastal zone management in Louisiana will remain less than adequate. Those parishes with a Local Coastal Program should strive to incorporate the public, government officials and operations staff into a CZM/LCP process that promotes sustainable use and better stewardship of coastal resources. Together, coastal parishes and the state of Louisiana should continue to work toward closing the gaps between coastal restoration and management.

Epilogue

Like anybody else, we think in terms of ‘when the wolf’s at the door’ people worry. I don’t see the wolf at our door yet. (07/20/05)

On the morning of August 29, 2005, Southeast Louisiana was catastrophically hit by Hurricane Katrina, a strong Category 3 storm downgraded from Category 4 status just before landfall. Storm surge in southeast Louisiana and adjacent Mississippi topped thirty feet. In the hours and days that passed, New Orleans succumbed as levees breached. Plaquemines, St. Bernard, St. Tammany, Orleans, Jefferson parishes were hardest hit as surge swept inland drowning everything in its path. Even parishes more inland – parishes that had never before flooded as a result of hurricane surge – took on water. The combined effects from wind, rain, flooding and surge, caused infrastructure and services to fail region wide.

Not a month later, Hurricane Rita, another storm of comparable strength, hit the Louisiana – Texas border, inundating Cameron, Calcasieu, Vermilion, Iberia and St.

Mary parishes with storm surge and leaving parts of Cameron and Vermilion parish under ten feet of water days after the storm. So great was the storm surge from Rita that even parts of the eastern parishes of Orleans and St. Bernard encountered eight foot surge. No coastal parish in Louisiana was spared from hurricane devastation in 2005.

Almost six months after the storms, recovery is tragically slowed by the failure of all levels of government to co-ordinate efforts; the failure of existing organizations like Levee Boards; displaced parish administrations; the scrambling of local and state officials to create new organizations; the sporadic yet omnipotent federal presence; a pervasive distrust; and the disquieting demonstration of inequitable burden.

The dreadful circumstances that curtailed the interview segment of this study also make this work more powerful and salient. Institutional and human capacities at all levels are perhaps the most critical elements of a sustainable future in coastal Louisiana. The ability of state agencies to build local capacity and the ideology behind such capacity-building will have profound impact on long-term local recovery.

As a final note, I am compelled to make a comment regarding the boundary of the coastal zone. Since the 1930's, Louisiana has lost approximately 1,900 square miles of coastal wetlands²⁷ (see Figure 8). The inland advance of some parts of Louisiana's coastline 'slowed' from 1990 – 2000 to about 24 square miles per year. Satellite imagery indicates that Hurricane Katrina alone turned about 39 square miles of Plaquemines and St Bernard parishes into open water (see Figure 9). At the threshold of what climatologists describe as an active period of climatic adjustment, the vulnerability of this region and coastal Louisiana as a whole has increased exponentially. Taken together with continuing land loss, it is critical that coastal zone boundaries be amended statutorily in the State and Local Coastal Resources Management Act (1978). LADNR must then take the lead in affecting these changes to facilitate far-reaching state and federal interagency cooperation and adjustment. LADNR must also work to temper the false sense of security some inland parishes convey, and to provide means for coastal parishes to proactively respond and adapt to a rapidly changing environment.

²⁷ Source: USGS National Wetland Center News Releases (05/21/03; 09/14/05). Citation in reference.

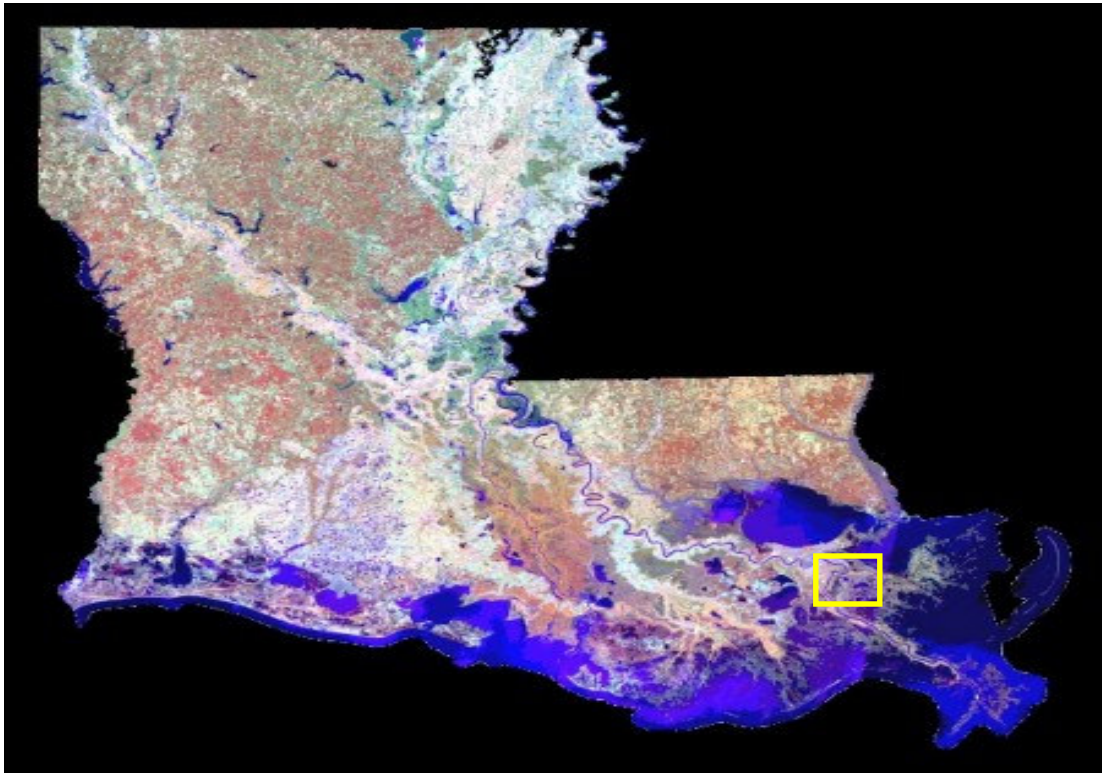


Figure 8. Satellite imagery of Louisiana (pre-Katrina). Area in yellow in Figure 9.
 Source: LaCoast, USGS. Full citation in reference.

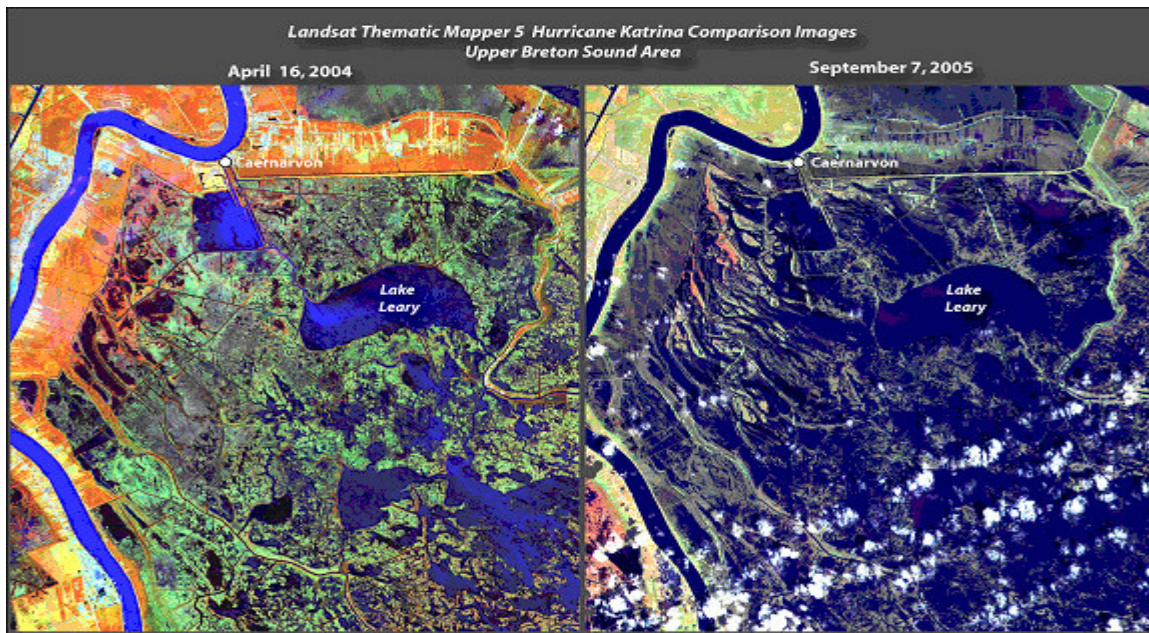


Figure 9. Satellite imagery pre and post Katrina - St. Bernard Parish and Plaquemines Parish
 Source: Lake Ponchartrain Basin Foundation website. Image by USGS National Wetlands Research Center
 Full citation in reference

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APPENDICES

APPENDIX A

Interview Questions

1. Can you tell me a little about your background and how you came to be involved with coastal zone management?
2. What are your primary activities (as czm administrator or designate) in relation to coastal zone management?
3. What can you tell me about local coastal programs here in Louisiana? (Probe for what they may know about the process of LCP development; any previous vote on LCP; any LCP issues)
4. Tell me a little about your parish and coastal zone management? (probe for history; issues, future of parish – subsidence/sea rise, erosion, infrastructure plans ie roads, levees, pump stations; relationship
5. What if any are the advantages for parishes with local coastal programs?
6. What if any are the disadvantages for parishes with local coastal programs?
7. How would you characterize the relationship between DNR's Coastal Management Division and your parish?
8. What kinds of opportunities are there for communication between the parishes, government agencies and other interested organizations? (probe for training activities, sharing of developmental/experiential information; networking on issues/projects)
9. Can you tell me about the LCP application process and the developmental resources available to the parish? (Probe for both parish resources and resources thru DNR for development and enhancement)
10. The permitting process appears interconnected between the state and the parish. Can you explain how the permitting process works? Do you see any advantages or disadvantages to how it works? (if disadvantages, follow with: What would your recommendations for improvement be?)

APPENDIX B – Survey Form

1. a) What is your occupation? (If retired, state former occupation)

b) Briefly describe your duties: _____

2. What is your highest level of education completed?

- ____ less than high school completion
____ high school/ GED diploma
____ 2 yr associate degree /equivalent college yrs.
____ 4 yr college degree
____ MA/MS/PhD/Prof degree

3. Are you: ☐ Male ☐ Female 4. Age: _____

5. a) In your role as a police juror, council member, advisory panel member, or staff, list any duties that relate to coastal zone management.

b) Excluding other members of your police jury, council, advisory panel, or staff, how many times per week do you have telephone or personal contact with people working in coastal zone management? _____ times per week

6. Coastal zone management (CZM) issues are addressed by multiple agencies (ex: EPA, Corps, NMFS, USFWS, DNR). In addition, non-government organizations (ex. BT National Estuary Program, Restore or Retreat) focus on coastal issues. These issues are the subject of meetings, conferences, training seminars, reports, and community educational outreach.

a) How many times a **year** do you participate in the following coastal zone issue-related activities:

training seminars _____ field trips _____
conferences _____
public meetings (excluding parish govt) _____

b) How many times a **month** do you do the following coastal zone issue-related activities:

read technical reports _____
read journal articles _____
access federal or state agency web sites _____

7. Part of Louisiana Department of Natural Resources CZM program is to encourage the development of Local Coastal Programs (LCP) in coastal zone parishes.

a) Has DNR ever promoted development of an LCP in your parish?

☐ Yes ☐ No ☐ Don't know

b) Is the LCP worthwhile to your parish?

☐ Yes ☐ No ☐ Don't know

Please Explain: _____

8. Do / would voters in your parish support the LCP program?

☐ Yes ☐ No ☐ Don't know

Please explain: _____

9. Using the scale as a guide, circle the number that best describes the extent to which you agree or disagree with statements below:

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

a) The knowledge of coastal zone managers is superior to that of the general public.

1 2 3 4 5

b) Regardless of ownership, wetlands are a 'public good'.

1 2 3 4 5

c) LCPs negatively affect local benefits from development.

1 2 3 4 5

d) Environmentalists stall the permit process with complaints.

1 2 3 4 5

e) Permitting is based largely on political interests.

1 2 3 4 5

f) LCPs make environmental mitigation efforts more efficient.

1 2 3 4 5

g) The permit process is unnecessarily problematic.

1 2 3 4 5

h) Considering coastal zone issues, some restraint on use is important in a market economy.

1 2 3 4 5

i) Coastal zone regulations serve environmentalist interests.

1 2 3 4 5

j) A focus on regulations leads to less protection of resources.

1 2 3 4 5

k) Its more important to find solutions to conflicts than to understand the complexities of coastal zone problems.

1 2 3 4 5

l) Its up to the applicant to smooth the permit process by 'doing their homework'.

1 2 3 4 5

m) LCPs ensure that local issues are 'weighed in the balance'.

1 2 3 4 5

n) Resource use decisions should be based solely on greatest economic benefit.

1 2 3 4 5

10. Please check the one box that accurately describes your parish with regard to the LCP program:

- ☐ No LCP ☐ Pending LCP application
☐ Active New LCP < 2 yrs old ☐ Inactive LCP
☐ Active Established LCP 2 - 5 yrs old
☐ Active Mature LCP > 5 yrs old

11. To the best of your recollection, in the past 5 years how many times has your parish suffered serious damage due to:

- a) hurricanes / tropical storms _____
b) floods _____
c) storm surge _____
d) other hazard agent, please specify: _____

12. Please circle the degree of physical vulnerability of your parish to the following:

	Low	Moderate	High
a) hurricanes/tropical storms	1	2	3
b) flooding/storm surge	1	2	3
c) pollution	1	2	3
d) land loss	1	2	3
e) saltwater intrusion	1	2	3

13. Please circle the degree of economic vulnerability of your parish due to coastal hazards with respect to:

	Low	Moderate	High
a) property loss	1	2	3
b) infrastructure damage	1	2	3
c) business interruption	1	2	3
d) loss of investment capital	1	2	3
e) loss of natural resources	1	2	3

14. Using the scale, assign the number indicating the level of expertise you believe your parish has with the skills listed below:

0	1	2	3	4	5
none	very poor	poor	average	good	very good

- a) Grant writing _____
b) Program development _____
c) Networking _____
d) Joint ventures _____

15. a) Has your Council/Police Jury ever voted on an LCP? ☐

Yes ☐ No ☐ Don't know

b) If yes, why was LCP rejected?

c) Would your parish address coastal zone management issues differently, if your parish had an LCP?

☐ Yes ☐ No ☐ Don't know

d) Would having an LCP give your parish 'a say' in state coastal zone issues?

☐ Yes ☐ No ☐ Don't know

16. The phrases below describe possible hurdles to LCP development. Using the scale below, assign the number that indicates how big a hurdle you believe they are to your parish:

0	1	2	3	4	5
none	very small	small	medium	big	very big

- a) time-consuming _____
b) work / effort involved _____
c) bureaucratic red tape _____
d) financial input by parish _____
e) specialized skills required _____
f) insufficient state funding _____
g) ineffective state CZM program _____
i) other _____

Thank you for your participation. If you would like to add a comment, please use the separate lined sheet provided.

LNR1-05 O

FORM 1 – Parishes without LCP

APPENDIX C – Survey form 2

1. a) What is your occupation? (If retired, state former occupation) _____

b) Briefly describe your duties: _____

2. What is your highest level of education completed?

- ☐ less than high school completion
☐ high school/ GED diploma
☐ 2 yr associate degree /equivalent college yrs.
☐ 4 yr college degree
☐ MA/MS/PhD/Prof degree

3. Are you: ☐ Male ☐ Female 4. Age: _____

5. a) In your role as a police juror, council member, advisory panel member, or staff, list any duties that relate to coastal zone management.

b) Excluding other members of your police jury, council, advisory panel, or staff, how many times per week do you have telephone or personal contact with people working in coastal zone management? _____ times per week

6. Coastal zone management (CZM) issues are addressed by multiple agencies (ex: EPA, Corps, NMFS, USFWS, DNR). In addition, non-government organizations (ex. B-T National Estuary Program, Restore or Retreat) focus on coastal issues. These issues are the subject of meetings, conferences, training seminars, reports, and community educational outreach.

a) How many times a **year** do you participate in the following coastal zone issue-related activities:

training seminars _____ field trips _____
 conferences _____
 public meetings (excluding parish govt) _____

b) How many times a **month** do you do the following coastal zone issue-related activities:

read technical reports _____
 read journal articles _____
 access federal or state agency web sites _____

7. Part of Louisiana Department of Natural Resources CZM program is to encourage the development of Local Coastal Programs (LCP) in coastal zone parishes.

a) Has DNR ever promoted development of an LCP in your parish?

☐ Yes ☐ No ☐ Don't know

b) Is the LCP worthwhile to your parish?

☐ Yes ☐ No ☐ Don't know

Please Explain: _____

8. Do / would voters in your parish support the LCP program?

☐ Yes ☐ No ☐ Don't know

Please explain: _____

9. Using the scale as a guide, circle the number that best describes the extent to which you agree or disagree with statements below:

1	2	3	4	5
Strongly				Strongly
Disagree	Disagree	Neutral	Agree	Agree

a) The knowledge of coastal zone managers is superior to that of the general public.

1 2 3 4 5

b) Regardless of ownership, wetlands are a 'public good'.

1 2 3 4 5

c) LCPs negatively affect local benefits from development.

1 2 3 4 5

d) Environmentalists stall the permit process with complaints.

1 2 3 4 5

e) Permitting is based largely on political interests.

1 2 3 4 5

f) LCPs make environmental mitigation efforts more efficient.

1 2 3 4 5

g) The permit process is unnecessarily problematic.

1 2 3 4 5

h) Considering coastal zone issues, some restraint on use is important in a market economy.

1 2 3 4 5

i) Coastal zone regulations serve environmentalist interests.

1 2 3 4 5

j) A focus on regulations leads to less protection of resources.

1 2 3 4 5

k) Its more important to find solutions to conflicts than to understand the complexities of coastal zone problems.

1 2 3 4 5

l) Its up to the applicant to smooth the permit process by 'doing their homework'.

1 2 3 4 5

m) LCPs ensure that local issues are 'weighed in the balance'.

1 2 3 4 5

n) Resource use decisions should be based solely on greatest economic benefit.

1 2 3 4 5

10. Please check the one box that accurately describes your parish with regard to the LCP program:

- ☐ No LCP ☐ Pending LCP application
☐ Active New LCP < 2 yrs old ☐ Inactive LCP
☐ Active Established LCP 2 - 5 yrs old
☐ Active Mature LCP > 5 yrs old

11. To the best of your recollection, in the past 5 years how many times has your parish suffered serious damage due to:

- a) hurricanes / tropical storms _____
b) floods _____
c) storm surge _____
d) other hazard agent, please specify: _____

12. Please circle the degree of physical vulnerability of your parish to the following:

	Low	Moderate	High
a) hurricanes/tropical storms	1	2	3
b) flooding/storm surge	1	2	3
c) pollution	1	2	3
d) land loss	1	2	3
e) saltwater intrusion	1	2	3

13. Please circle the degree of economic vulnerability of your parish due to coastal hazards with respect to:

	Low	Moderate	High
a) property loss	1	2	3
b) infrastructure damage	1	2	3
c) business interruption	1	2	3
d) loss of investment capital	1	2	3
e) loss of natural resources	1	2	3

14. Using the scale, assign the number indicating the level of expertise you believe your parish has with the skills listed below:

0	1	2	3	4	5
none	very poor	poor	average	good	very good

- b) Grant writing _____
c) Program development _____
d) Networking _____
e) Joint ventures _____

15. a) What was the biggest hurdle in developing your LCP?

b) Does having an LCP give your parish 'a say' in state issues?
☐ Yes ☐ No ☐ Don't know

Please explain _____

16. How long have you personally worked with the LCP in your parish? _____yrs _____mths

17. Consider the relationship of your LCP to the State CZM program (DNR). Please circle the level of effectiveness that applies to the following:

	Low	Moderate	High
a) DNR/LCP cooperation	1	2	3
b) integration of programs	1	2	3
c) 2-way communication	1	2	3
d) training opportunities	1	2	3
e) evaluative feedback loop	1	2	3

18. a) Do you believe that your LCP has smoothed the permit process?

☐ Yes ☐ No ☐ Don't know

b) Do you believe that public involvement with coastal zone issues has increased as a result of your LCP?

☐ Yes ☐ No ☐ Don't know

c) Do you believe that benefits of your LCP outweigh the associated costs with its development and maintenance?

☐ Yes ☐ No ☐ Don't know

19. Did the LCP development process improve parish skills in the following:

- a) grant writing ☐ Yes ☐ No ☐ Don't know
b) program development ☐ Yes ☐ No ☐ Don't know
c) networking ☐ Yes ☐ No ☐ Don't know
d) joint ventures ☐ Yes ☐ No ☐ Don't know

FORM 2 – parishes with LCPs

APPENDIX D

Introductory Letter to Parish Presidents

Dear

I am contacting you today to ask for your help. As you know, coastal issues in Louisiana are becoming more critical by the day, and increasingly, local governments of coastal communities are pressured by decisions that pertain to sustainability. An important component of the state's CZM program is the voluntary participation of coastal parishes in local coastal management.

Within the next week, a survey will be mailed to members of coastal parish Councils or Police Juries, and Local Coastal Program Advisory Panels. It will provide critical feedback from local government, managers and advisors on the relative strengths and weaknesses of local coastal programs.

The survey will be mailed out to 253 persons over nineteen parishes. Because this is a small population, it is critical that the response rate be high. It would be of tremendous help, if you as Parish President, would encourage the participation of your Jury, Council, or Advisory Panel in the survey

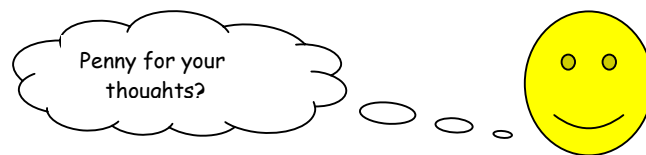
Thank you for your assistance. If you have any questions, please contact me at (337) 280 0062.

Yours truly,

Carla Norris-Raynbird
Research Scientist
Sociology and Anthropology
University of Louisiana

APPENDIX E

Reminder Card



A few weeks ago, you received a survey on local coastal programs. It is the only study to date focused on local coastal programs from the perspective of local government and administrators.

I know you're busy. But please...take a few minutes to complete the survey. If you no longer have the survey, a second survey mailing is scheduled within the next two weeks.

If you have already returned your survey, please accept my thanks for your prompt reply.

Carla Norris-Raynbird, ULL

APPENDIX F

Cover Letter

Dear

I am asking for your help in completing a survey that explores the Local Coastal Program initiative in Louisiana. Some of you will recognize my name from fieldwork I've done in many of the coastal parishes over the last year. I have learned so much about the unique challenges faced by people who live and work in coastal parishes here in Louisiana. Now that I live in Louisiana, these challenges have become very important to me as well. Because of this, I have chosen to make local management of coastal issues the subject of my current research.

Specifically, this study will explore the historical and structural development of Local Coastal Programs (LCPs), as well as explore factors that have informed decisions of some parishes not to form a Local Coastal Program. I will be looking at management perceptions across all nineteen coastal parishes, and I will also be doing a case study of each coastal parish that will look at the unique context of each parish. You were selected to be a participant because you are among approximately 269 people who are members of a coastal zone Police Jury, Parish Council, or LCP Advisory Panel. A survey is the most efficient way to capture information from all parishes. So you can see why your input is very important. There is no risk associated with participation and it will only take about 20 minutes of your time. For your convenience I have enclosed a stamped and addressed envelope.

This study is completely confidential. This means that there will be no identifiers appearing in any data or research report that might be published that could link your name to the study. You can refuse to answer any questions or withdraw your participation at any time. Your completion of the survey will be your consent to participate in the research. Research materials will be securely stored in my office at the University of Lafayette and only I will have access to these materials. When I have completed the data analysis, the surveys will be destroyed.

Thanks for your time and assistance in completing this survey. If you would like a copy of the final report, you can contact me under separate cover from the survey. If you have any questions or concerns regarding this study, please call me at (337) 280 0062, or the research advisor, Dr. Jane Sell, at (979) 845 5133.

Yours truly,

Carla Norris-Raynbird, M.S., PhD Candidate
Department of Sociology and Anthropology
University of Louisiana at Lafayette

The degree-granting institute for this doctoral research is Texas A&M University. This study has been reviewed and approved by the Institutional Review Board – Human Subjects in Research, Texas A&M University. For research-related concerns or questions regarding subject rights, you can contact the Institutional Review Board through Dr. Michael W. Buckley, Director of Research Compliance, Office of the Vice President for Research at (979) 845 8484, or (mw Buckley@tamu.edu). The decision whether or not to participate in this study will not affect your current or future relations with Texas A&M University.

APPENDIX G

Frame statements to construct Likert scale

- a) The knowledge of coastal zone managers is superior to that of the general public. (regulator frame)
- b) Regardless of ownership, wetlands are a 'public good'. (environmental frame)*
- c) LCPs negatively affect local benefits from development. (regulated frame)
- d) Environmentalists stall the permit process with complaints. (regulated frame)
- e) Permitting is based largely on political interests. (environmental frame)*
- f) LCPs make environmental mitigation efforts more efficient. (regulator frame)
- g) The permit process is unnecessarily problematic. (regulated frame)
- h) Considering coastal zone issues, some restraint on use is important in a market economy. (regulator frame)
- i) Coastal zone regulations serve environmentalist interests. (regulated frame)
- j) A focus on regulations leads to less protection of resources. (regulated frame)
- k) Its more important to find solutions to conflicts than to understand the complexities of coastal zone problems. (regulated frame)
- l) Its up to the applicant to smooth the permit process by 'doing their homework'. (regulator frame)
- m) LCPs ensure that local issues are 'weighed in the balance'. (regulator frame)
- n) Resource use decisions should be based solely on greatest economic benefit. (regulated frame)

* not used in regulator/regulated scale construction

N = 72

Reliability Analysis – Scale (Alpha)

Statement ID	Alpha if item deleted	Statement ID	Alpha if item deleted
Quest 9A	.6683	Quest 9I	.6089
Quest 9C	.6208	Quest 9J	.6164
Quest 9D	.5873	Quest 9K	.6567
Quest 9F	.6480	Quest 9L	.6842
Quest 9G	.6072	Quest 9M	.6192
Quest 9H	.6550	Quest 9N	.6299

APPENDIX H

Selection of Scale Model

N = 72

Model 1	Model 2	Model 3	Model 4
Quest: A, C, D, F, G, H, I, J, K, L, M, N	Quest: C, D, F, G, I, J, M, N	Quest: C, D, G, I, J, M, N	Quest: C, D, G, I, J, N
N of variables = 12	N of variables = 8	N of variables = 7	N of variables = 6
Item Means Variance = .1668	Item Means Variance = .1787	Item Means Variance = .1946	Item Means Variance = .1675
Inter-item Correlations Variance = .0270	Inter-item Correlations Variance = .0149	Inter-item Correlations Variance = .0090	Inter-item Correlations Variance = .0088
F = 12.8886	F = 15.2496	F = 16.9413	F = 14.0806
Probability = .0000 at .05 confidence level	Probability = .0000 at .05 confidence level	Probability = .0000 at .05 confidence level	Probability = .0000 at .05 confidence level
Model Alpha = .6552	Model Alpha = .7107	Model Alpha = .7187	Model Alpha = .7118
Standardized item Alpha = .6555	Standardized item Alpha = .7103	Standardized item Alpha = .7183	Standardized item Alpha = .7149

Scale models analysis

Model 2 Items:

- C) LCPs negatively affect local benefits from development.
- D) Environmentalists stall the permit process with complaints.
- F) LCPs make environmental mitigation efforts more efficient.
- G) The permit process is unnecessarily problematic.
- I) Coastal zone regulations serve environmentalist interests.
- J) A focus on regulations leads to less protection of resources.
- M) LCPs ensure that local issues are 'weighed in the balance'.
- N) Resource use decisions should be based solely on greatest economic benefit.

APPENDIX I

Crosstabulations of respondent frame and LCP status

Using the cut point of 28, a dichotomous variable was created for ‘respondents in regulator range’. Crosstabulations were run with this variable as the dependent variable, and level of LCP development or ‘lcpstat’ as the independent variable to examine the relationship between the two variables.

Respondents in regulator range	LCP status				
	no LCP	pending	new<5yr active	mature 5yr+ active	Total
0 = not regulator % within LCP status	22 88%	3 50%	8 40%	18 62.1%	51 63.8%
1 = regulator % within LCP status	3 12%	3 50%	12 60%	11 37.9%	29 37.5%
Kendall's Tau-b: .191 (approx. sig = .049) Spearman's rho: .206 (significance .067 2-tailed)					

Crosstabulations of respondent frame (dichotomous) and LCP status.

Referring to the table above, the strength of association between the variables was examined by Gamma and Kendall's Tau-b tests. The absolute value for Gamma at .262 is indicative of moderately strong association. However, Gamma can overstate the strength of a relationship. This would be particularly true in small sample sizes such as this one. Kendall's Tau-b is a more conservative estimate of association and its absolute value is .155 – indicative of a relatively weak relationship. The approximate significance value for both shows that the probability of the association being due to chance is about 12/1000.

A nonparametric Spearman correlation 2 –tailed test was run. This showed a weak and non-significant relationship between the two variables (.167 with significance .138). The tests of association strength and significance did not provide sufficient evidence to reject the Null hypothesis that there is no relationship between LCP status and regulator range frame agreement.

APPENDIX J

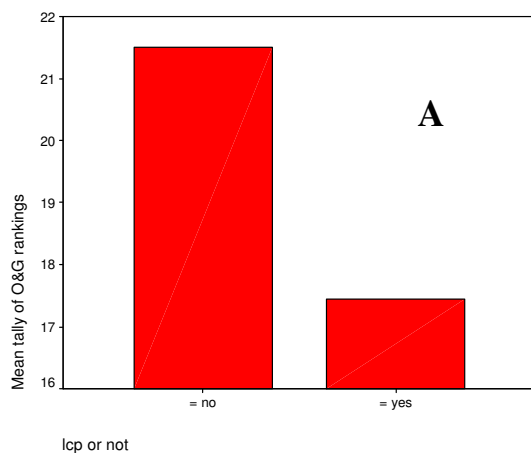
Parish	Oil wells	Chemical	Refineries	Rank tally
LCP				
Calcasieu	3,485 (7)	13 (1)	3 (1)	(9)
Cameron	5,555 (4)	0 (7)	0 (4)	(15)
Jefferson	1,746 (11)	1 (6)	0 (4)	(21)
Lafourche	6,884 (2)	0 (7)	0 (4)	(13)
Orleans	8 (18)	1 (6)	0 (4)	(28)
Plaquemines	25,373 (1)	1 (6)	1 (3)	(10)
St. Bernard	1,777 (10)	2 (5)	2 (2)	(17)
St. Charles	901 (12)	8 (2)	3 (1)	(15)
St. James	288 (14)	5 (3)	1 (3)	(20)
St. Tammany	4 (19)	0 (7)	0 (4)	(30)
Terrebonne	6,459 (3)	0 (7)	0 (4)	(14)
No LCP				
Assumption	492 (13)	0 (7)	0 (4)	(24)
Iberia	2,178 (8)	0 (7)	0 (4)	(19)
Livingston	227 (15)	0 (7)	0 (4)	(26)
St. John the Baptist	65 (16)	4 (4)	1 (3)	(23)
St. Martin	1,911 (9)	0 (7)	0 (4)	(20)
St. Mary	5,533 (5)	1 (6)	0 (4)	(15)
Tangipahoa	18 (17)	0 (7)	0 (4)	(28)
Vermilion	4,991 (6)	0 (7)	0 (4)	(17)

Table listing measures of Oil and Gas presence in coastal parishes of Louisiana grouped by local coastal programs (LCPs) or no LCP

Sources: Louisiana Midcontinent Oil & Gas Association, Louisiana Chemical Association.
Full citations in references.

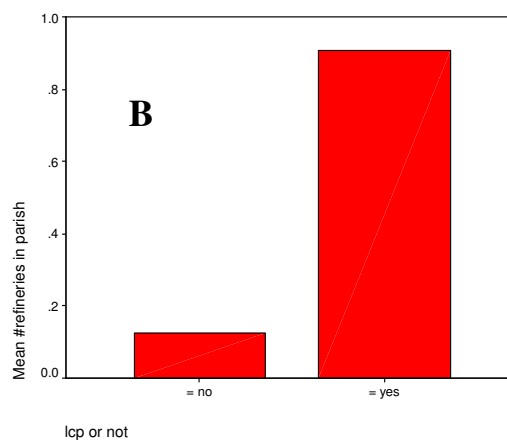
APPENDIX K

Graphs of measures of O&G presence in coastal parishes



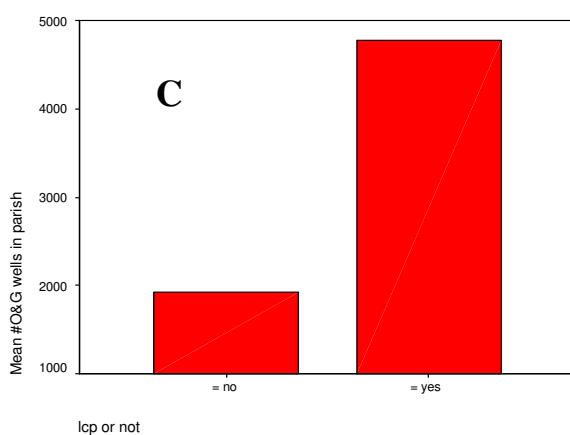
Graph A – mean total ranking (across three measures: number of refineries; number chemical facilities; number of O&G wells), grouped by LCP or No LCP.

Parishes with LCPs have lower mean, indicating lower rank scores (more scores of 1, 2, 3 etc). This means more O&G presence.



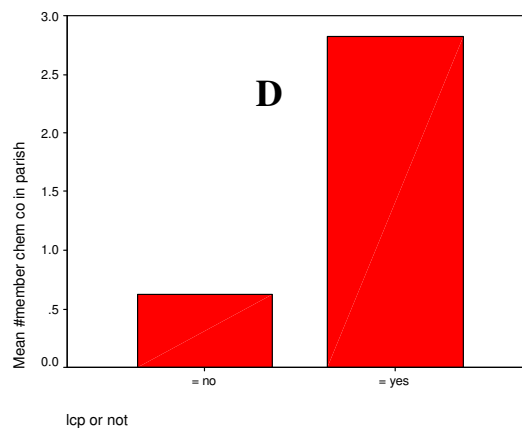
Graph B – mean number of refineries grouped by LCP or No LCP.

Parishes with an LCP have a much higher mean, indicating greater O&G presence in those parishes based on number of refineries.



Graph C – mean number of oil and gas wells grouped by LCP or No LCP.

Parishes with an LCP have a much higher mean, indicating greater O&G presence in those parishes based on number of oil and gas wells.

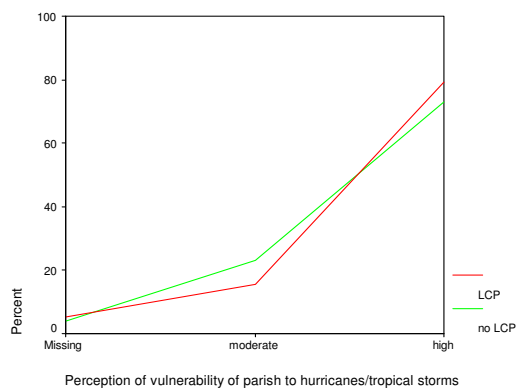


Graph D – mean number of chemical plants grouped by LCP or No LCP.

Parishes with an LCP have a much higher mean, indicating greater O&G presence in those parishes based on number of chemical plants.

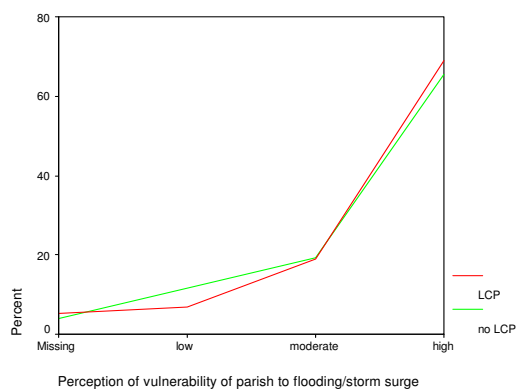
APPENDIX L

Perceptions of physical vulnerability to coastal hazards



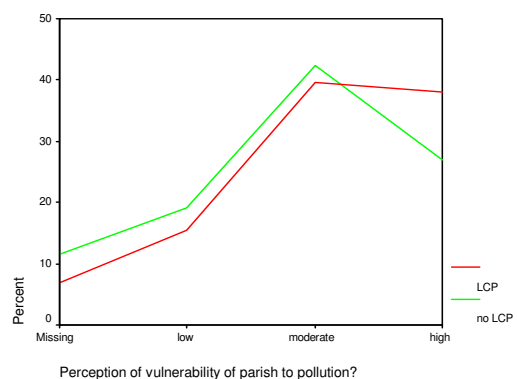
N=80			
Vulnerability level	LCP	No LCP	Total
Low	--	--	--
Moderate	9 16%	6 24%	15 19%
High	46 84%	19 76%	65 81%
Total	55	25	80

Perception of vulnerability to hurricanes/tropical storms



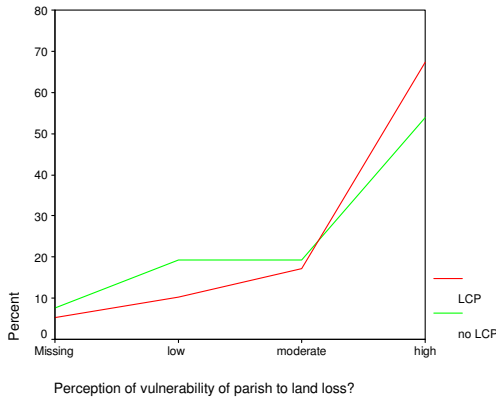
N=80			
Vulnerability level	LCP	No LCP	Total
Low	4 7%	3 12%	7 9%
Moderate	11 20%	5 20%	16 20%
High	40 73%	17 68%	57 71%
Total	55	25	80

Perception of vulnerability to flooding/storm surge



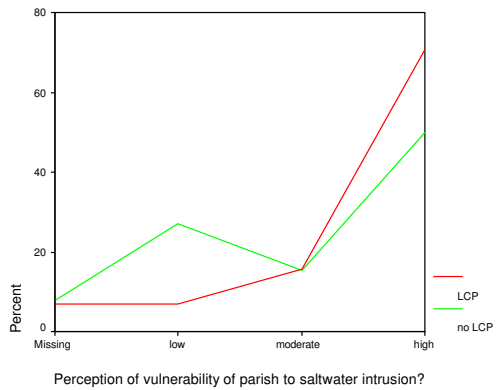
N=77			
Vulnerability level	LCP	No LCP	Total
Low	9 17%	5 22%	14 18%
Moderate	23 42%	11 48%	34 44%
High	22 41%	7 30%	29 38%
Total	54	23	77

Perception of vulnerability to pollution



N=79			
Vulnerability level	LCP	No LCP	Total
Low	6 11%	5 21%	11 14%
Moderate	10 18%	5 21%	15 19%
High	39 71%	14 58%	53 67%
Total	55	24	79

Perception of vulnerability to saltwater intrusion

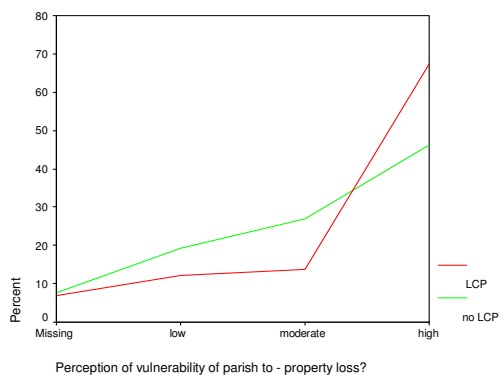


N=78			
Vulnerability level	LCP	No LCP	Total
Low	4 7%	7 29%	11 14%
Moderate	9 17%	4 17%	13 17%
High	41 76%	13 54%	54 69%
Total	54	24	78

Perception of vulnerability to land loss

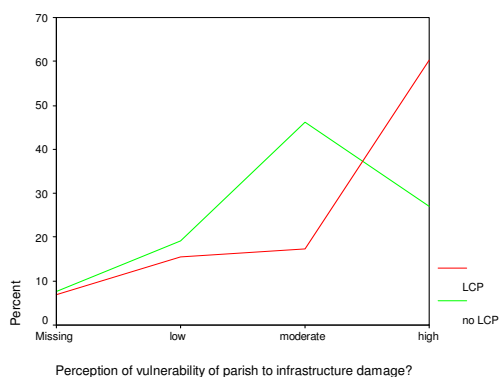
APPENDIX M

Perceptions of economic vulnerability to coastal hazards



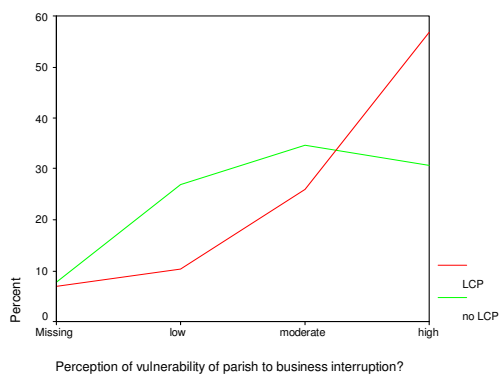
N=78			
Vulnerability level	LCP	No LCP	Total
Low	7 13%	5 21%	12 15%
Moderate	8 15%	7 29%	15 19%
High	39 72%	12 50%	51 66%
Total	54	24	78

Perception of vulnerability to property loss



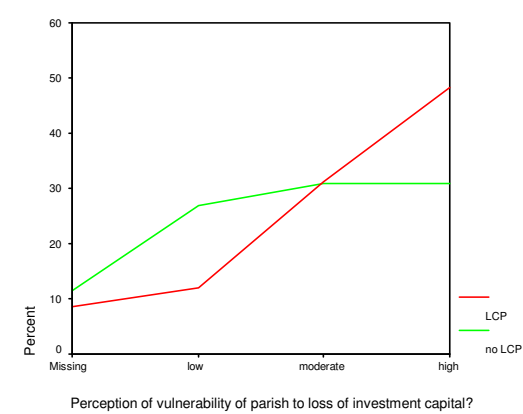
N=78			
Vulnerability level	LCP	No LCP	Total
Low	9 17%	5 21%	14 18%
Moderate	10 18%	12 50%	22 28%
High	35 65%	7 29%	42 54%
Total	54	24	78

Perception of vulnerability to infrastructure damage



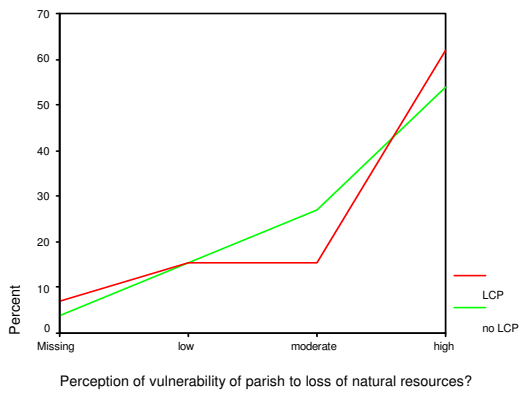
N=78			
Vulnerability level	LCP	No LCP	Total
Low	6 11%	7 29%	13 17%
Moderate	15 28%	9 38%	24 31%
High	33 61%	8 33%	41 52%
Total	54	24	78

Perception of vulnerability to business interruption



N=78			
Vulnerability level	LCP	No LCP	Total
Low	6 11%	7 29%	13 17%
Moderate	15 28%	9 38%	24 31%
High	33 61%	8 33%	41 52%
Total	54	24	78

Perception of vulnerability to loss of investment capital



N=78			
Vulnerability level	LCP	No LCP	Total
Low	6 11%	7 29%	13 17%
Moderate	15 28%	9 38%	24 31%
High	33 61%	8 33%	41 52%
Total	54	24	78

Perception of vulnerability to loss of natural resources

APPENDIX N1

LCP status: no LCP
 LCP age (in years): 0
 CZM contact: Parish President
 Date parish created: 1807
 Form of government: Police Jury
 Parish seat: Napoleonville

Demographics²⁸

Population (2000 Census): 23,388
 White 67%
 Black / African American 32%
 Other 1%

Population density (per sq. mi.): 69.1
 Average household income (2000): \$31,168
 Average property value (2000): \$78,800

Industry and transportation information (2001)³¹

Major urban centers:³² 0
 Top three industry sectors by employment:
 Manufacturing 33.46%
 Services 29.13%
 Retail trade 12.74%

Local airport: 0

Ports: 0



Assumption Parish

Source: LA Department of Natural Resources
<http://dnr.louisiana.gov/>

Land area (sq. mi.): 339
 Elevation (feet):²⁹ 15

Federal Election November 2, 2004³⁰
 Republican 46%

Oil and gas activity³³

Oil wells 492
 Refineries (major) 0
 Chemical facilities (major) 0

Toxic Release Inventory information³⁴

Number of facilities: 3
 Onsite released (lbs/yr) 412,500

²⁸ Source: US Census (2000). Full citation in references.

²⁹ Source: Louisiana Department of Economic Development (1998). These are approximate. Recorded elevations in Louisiana have been recently shown to be highly inaccurate. Benchmarks are obsolete and some locations are off by over 1 foot due to subsidence (Shinkle and Dokka, 2004).

³⁰ Source: Louisiana Secretary of State. Full citation in references

³¹ Source: Entergy. Full citation in references. Pertains to 'within parish' only.

³² Population over 20,000

³³ Source: Louisiana Midcontinent Oil & Gas Association (member facilities); Louisiana Department of Economic Development; Louisiana Chemical Association (member facilities). Full citations in references.

³⁴ Source: Toxic Release Inventory, Environmental Protection Agency. Full citation in references.

APPENDIX N2

LCP status: LCP
 LCP age (in years): 18
 CZM contact: CZM Administrator
 Date parish created: 1840
 Form of government: Police Jury
 Parish seat: Lake Charles

Demographics

Population (2000 Census): 183,577

White	74%
Black / African American	24%
Other	2%

Population density (per sq. mi.): 171.4

Average household income (2000): \$35,372

Average property value (2000): \$80,500

Industry and transportation information (2001)

Major urban centers: 2

Lake Charles pop.	71,757
Sulphur pop.	20,512

Top three industry sectors by employment:

Services	35.65%
Retail Trade	19.20%
Manufacturing	13.04%

Local airport: 2

Ports: 2



Land area (sq. mi.): 1071

Elevation (feet): 9 - 15

Federal Election November 2, 2004

Republican 58%

Oil and gas activity

Oil wells 3485

Refineries (major) 3

Chemical facilities (major) 13

Toxic Release Inventory information

Number of facilities 33

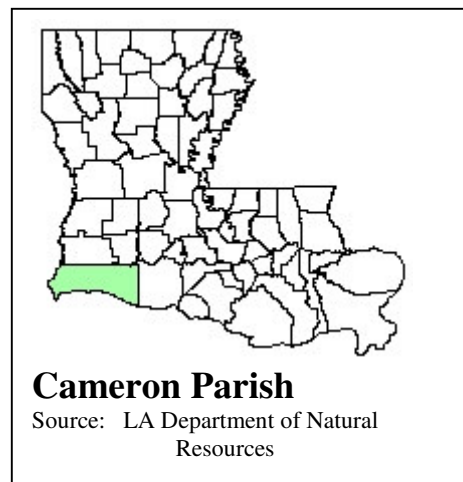
Onsite released (lbs/yr) 4,026,516

APPENDIX N3

LCP status: LCP
 LCP age (in years): 22
 CZM contact: CZM Administrator
 Date Parish created: 1870
 Form of government: Police Jury
 Parish seat: Cameron

Demographics

Population (2000 Census): 9,991
 White 94%
 Black / African American 4%
 Other 2%



Population density (per sq. mi.): 7.6
 Average household income (2000): \$34,232
 Average property value (2000): \$59,600

Land area (sq. mi.): 1313
 Elevation (feet): 7

Industry and transportation information (2001)

Major urban centers: 0
 Top three industry sectors by employment:
 Transportation 36.16%
 Services 22.57%
 Construction 7.68%

Federal Election November 2, 2004

Republican 69%

Oil and gas activity

Oil wells 5555
 Refineries (major) 0
 Chemical facilities (major) 0

Local airport: 0
 Ports: 1

Toxic Release Inventory information

Number of facilities 2
 Onsite released (lbs/yr) 32,792

APPENDIX N4

LCP status: No LCP
 LCP age (in years): 0
 CZM contact: Emergency Management
 Date Parish created: 1868
 Form of government: President-Council
 Home rule charter
 Parish seat: New Iberia



Demographics

Population (2000 Census): 73,266
 White 65%
 Black / African American 31%
 Other 3%

Population density (per sq. mi.): 127.4
 Average household income (2000): \$31,204
 Average property value (2000): \$75,500

Land area (sq. mi.): 575
 Elevation (feet): (average) 20

Industry and transportation information (2001)

Major urban centers: 1
 New Iberia 32,623
 Top three industry sectors by employment:
 Services 29.06%
 Retail Trade 15.59%
 Manufacturing 5.47%

Local airport: 1
 Ports: 1

Federal Election November 2, 2004

Republican 60%

Oil and gas activity

Oil wells 2178
 Refineries (major) 0
 Chemical facilities (major) 0

Toxic Release Inventory information

Number of facilities 8
 Onsite released (lbs/yr) 167,703

APPENDIX N5

LCP status: LCP
 LCP age (in years): 20
 CZM contact: Environmental &
 Development Control Department
 Date Parish created: 1825
 Form of government: President-Council
 Home rule charter
 Parish seat: Gretna



Demographics

Population (2000 Census): 455,466

White 70%
 Black / African American 23%
 Other 7%

Population density (per sq. mi.): 1485.1

Average household income (2000): \$38,435

Average property value (2000): \$105,300

Land area (sq. mi.): 307

Elevation (feet): (average) 5

Industry and transportation information (2001)

Major urban centers: 3

Kenner 70,517
 Gretna 17,423
 Westwego 10,763

Top three industry sectors by employment:

Services 29.06%
 Retail Trade 15.59%
 Manufacturing 15.47%

Local airport: 1

Ports: 0

Federal Election November 2, 2004

Republican 62%

Oil and gas activity

Oil wells 1746
 Refineries (major) 0
 Chemical facilities (major) 1

Toxic Release Inventory information

Number of facilities 22
 Onsite released (lbs/yr) 10,639,016

APPENDIX N6

LCP status: LCP
 LCP age (in years): 20
 CZM contact: CZM Administrator
 Date Parish created: 1807
 Form of government: President-Council
 Home rule charter
 Parish seat: Thibodaux



Demographics

Population (2000 Census): 89,974
 White 83%
 Black / African American 13%
 Other 4%

Population density (per sq. mi.): 82.9
 Average household income (2000): \$38,435
 Average property value (2000): \$105,300

Land area (sq. mi.): 1085
 Elevation (feet): (average) 3

Industry and transportation information (2001)

Major urban centers: 2
 Thibodaux 14,431
 Raceland 10,224

Top three industry sectors by employment:
 Services 35.15%
 Transportation 18.50%
 Retail Trade 17.85%

Local airport: 1
 Ports: 1

Federal Election November 2, 2004

Republican 60%

Oil and gas activity

Oil wells 6884
 Refineries (major) 0
 Chemical facilities (major) 0

Toxic Release Inventory information

Number of facilities 6
 Onsite released (lbs/yr) 41,326

APPENDIX N7

LCP status: No LCP
 LCP age (in years): 0
 CZM contact: Parish President
 Date Parish created: 1832
 Form of government: President-Council
 Home rule charter
 Parish seat: Livingston



Demographics

Population (2000 Census): 91,814
 White 94%
 Black / African American 4%
 Other 2%

Population density (per sq. mi.): 141.7
 Average household income (2000): \$38,887
 Average property value (2000): \$96,100

Land area (sq. mi.): 648
 Elevation (feet): (average) 40

Industry and transportation information (2001)

Major urban centers: 0

Top three industry sectors by employment:
 Services 34.47%
 Retail Trade 24.31%
 Manufacturing 11.57%

Local airport: 0
 Ports: 0

Federal Election November 2, 2004

Republican 77%

Oil and gas activity

Oil wells 227
 Refineries (major) 0
 Chemical facilities (major) 0

Toxic Release Inventory information

Number of facilities 6
 Onsite released (lbs/yr) 74,768

APPENDIX N8

LCP status: LCP
 LCP age (in years): 20
 CZM contact: Office of Environmental Affairs
 Date Parish created: 1805
 Form of government: President-Council
 Home rule charter
 Consolidated
 Parish seat: New Orleans



Demographics

Population (2000 Census): 484,674
 White 28%
 Black / African American 67%
 Other 5%

Population density (per sq. mi.): 2864.3
 Average household income (2000): \$27,133
 Average property value (2000): \$87,300

Land area (sq. mi.): 181
 Elevation (feet): (range) -10 – 3

Industry and transportation information (2001)

Major urban centers: 0
 New Orleans 484,674

Top three industry sectors by employment:
 Services 48.39%
 Retail Trade 16.25%
 Transportation 9.17%

Local airport: 1
 Ports: 1

Federal Election November 2, 2004

Republican 22%

Oil and gas activity

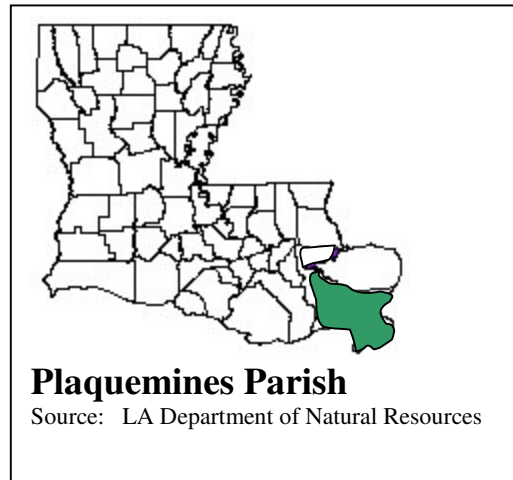
Oil wells 8
 Refineries (major) 0
 Chemical facilities (major) 1

Toxic Release Inventory information

Number of facilities 7
 Onsite released (lbs/yr) 171,425

APPENDIX N9

LCP status: LCP
 LCP age (in years): 4
 CZM contact: CZM Administrator
 Date Parish created: 1807
 Form of government: President-Council
 Home rule charter
 Parish seat: Pointe a la Hache



Demographics

Population (2000 Census): 26,757
 White 70%
 Black / African American 23%
 Other 7%

Population density (per sq. mi.): 31.7
 Average household income (2000): \$38,173
 Average property value (2000): \$110,100

Land area (sq. mi.): 845
 Elevation (feet): (average) 6

Industry and transportation information (2001)

Major urban centers: 0

Top three industry sectors by employment:
 Services 21.24%
 Transportation 16.95%
 Manufacturing 13.65%

Local airport: 0
 Ports: 1

Federal Election November 2, 2004

Republican 65%

Oil and gas activity

Oil wells 25,373
 Refineries (major) 1
 Chemical facilities (major) 1

Toxic Release Inventory information

Number of facilities 9
 Onsite released (lbs/yr) 9,631,184

APPENDIX N10

LCP status: LCP
 LCP age (in years): 18
 CZM contact: Parish Planning Commission
 Date Parish created: 1807
 Form of government: President-Council
 Home rule charter
 Parish seat: Chalmette



Demographics

Population (2000 Census): 67,229

White	88%
Black / African American	8%
Other	4%

Population density (per sq. mi.): 144.6

Average household income (2000): \$35,931

Average property value (2000): \$85,200

Land area (sq. mi.): 465

Elevation (feet): (average) 5

Industry and transportation information (2001)

Major urban centers: 2

Chalmette 31,069

Meraux 10,192

Top three industry sectors by employment:

Services 21.24%

Transportation 16.95%

Manufacturing 13.65%

Federal Election November 2, 2004

Republican 66%

Oil and gas activity

Oil wells 1,777

Refineries (major) 2

Chemical facilities (major) 2

Toxic Release Inventory information

Number of facilities 2

Onsite released (lbs/yr) 1,804,994

Local airport: 0

Ports: 1

APPENDIX N11

LCP status: Pending LCP
 LCP age (in years): 0
 CZM contact: Department of
 Planning & Zoning
 Date Parish created: 1807
 Form of government: President-Council
 Home rule charter
 Parish seat: Hahnville



Demographics

Population (2000 Census): 48,072
 White 72%
 Black / African American 25%
 Other 3%

Population density (per sq. mi.): 169.5
 Average household income (2000): \$45,139
 Average property value (2000): \$104,200

Land area (sq. mi.): 284
 Elevation (feet): (average) 21

Industry and transportation information (2001)

Major urban centers: 2
 Luling 11,512
 Destrehan 11,260

Top three industry sectors by employment:
 Transportation 28.41%
 Services 25.22%
 Retail Trade 11.30%

Local airport: 0
 Ports: 0

Federal Election November 2, 2004

Republican 62%

Oil and gas activity

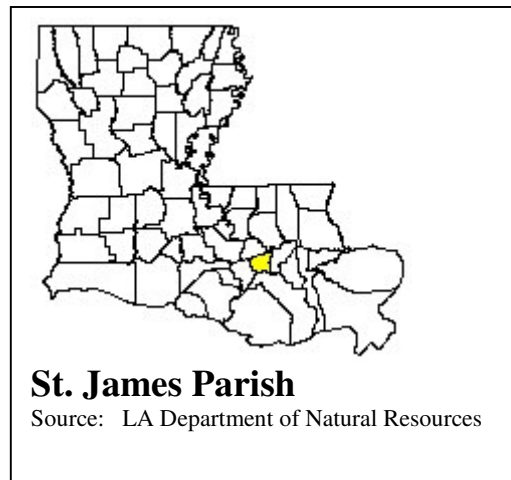
Oil wells 901
 Refineries (major) 3
 Chemical facilities (major) 8

Toxic Release Inventory information

Number of facilities 19
 Onsite released (lbs/yr) 16,239,473

APPENDIX N12

LCP status: LCP
 LCP age (in years): 18
 CZM contact: Department of Operations
 Date Parish created: 1807
 Form of government: President-Council
 Home rule charter
 Parish seat: Convent



Demographics

Population (2000 Census): 21,216
 White 50%
 Black / African American 49%
 Other 1%

Population density (per sq. mi.): 86.2 Land area (sq. mi.): 246
 Average household income (2000): \$35,277 Elevation (feet): (average) 20
 Average property value (2000): \$81,500

Industry and transportation information (2001)

Major urban centers: 0

Top three industry sectors by employment:
 Manufacturing 33.12%
 Services 26.20%
 Retail Trade 12.84%

Local airport: 0
 Ports: 0

Federal Election November 2, 2004

Republican 41%

Oil and gas activity

Oil wells 288
 Refineries (major) 1
 Chemical facilities (major) 5

Toxic Release Inventory information

Number of facilities 9
 Onsite released (lbs/yr) 4,451,573

APPENDIX N13

LCP status: No LCP
 LCP age (in years): 0
 CZM contact: Parish Administration
 Date Parish created: 1807
 Form of government: President-Council
 Home rule charter
 Parish seat: LaPlace



Demographics

Population (2000 Census): 43,044
 White 53%
 Black / African American 45%
 Other 2%

Population density (per sq. mi.): 196.6
 Average household income (2000): \$39,456
 Average property value (2000): \$83,500
 Land area (sq. mi.): 219
 Elevation (feet): (average) 15

Industry and transportation information (2001)

Major urban centers: 1
 LaPlace 27,684

Top three industry sectors by employment:
 Services 29.03%
 Retail Trade 18.64%
 Manufacturing 18.10%

Local airport: 1
 Ports: 1

Federal Election November 2, 2004

Republican 46%

Oil and gas activity

Oil wells 65
 Refineries (major) 1
 Chemical facilities (major) 4

Toxic Release Inventory information

Number of facilities 11
 Onsite released (lbs/yr) 1,500,395

APPENDIX N14

LCP status: No LCP
 LCP age (in years): 0
 CZM contact: Parish President
 Date Parish created: 1807
 Form of government: President-Council
 Home rule charter
 Parish seat: St. Martinville



Demographics

Population (2000 Census): 48,583
 White 66%
 Black / African American 32%
 Other 2%

Population density (per sq. mi.): 65.7
 Average household income (2000): \$30,701
 Average property value (2000): \$71,800

Land area (sq. mi.): 740
 Elevation (feet): (average) 19

Industry and transportation information (2001)

Major urban centers: 0

Top three industry sectors by employment:
 Services 30.03%
 Manufacturing 22.22%
 Retail Trade 20.75%

Local airport: 0
 Ports: 0

Federal Election November 2, 2004

Republican 53%

Oil and gas activity

Oil wells 1,911
 Refineries (major) 0
 Chemical facilities (major) 0

Toxic Release Inventory information

Number of facilities 3
 Onsite released (lbs/yr) 32,382

APPENDIX N15

LCP status: No LCP
 LCP age (in years): 0
 CZM contact: Parish Planning
 Department
 Date Parish created: 1811
 Form of government: President-Council
 Home rule charter
 Parish seat: Franklin



Demographics

Population (2000 Census): 53,500

White 63%
 Black / African American 32%
 Other 5%

Population density (per sq. mi.): 87.3

Average household income (2000): \$28,072

Average property value (2000): \$74,200

Land area (sq. mi.): 613

Elevation (feet): (average) 5

Industry and transportation information (2001)

Major urban centers: 2
 Morgan City 12,703

Top three industry sectors by employment:

Services 27.84%
 Transportation 16.89%
 Retail Trade 14.07%

Local airport: 1

Ports: 2

Federal Election November 2, 2004

Republican 57%

Oil and gas activity

Oil wells 5,533
 Refineries (major) 0
 Chemical facilities (major) 1

Toxic Release Inventory information

Number of facilities 6
 Onsite released (lbs/yr) 333,969

APPENDIX N16

LCP status: LCP
 LCP age (in years): 13
 CZM contact: Engineering Department
 Date Parish created: 1810
 Form of government: President-Council
 Home rule charter
 Parish seat: Covington



Demographics

Population (2000 Census): 191,268
 White 87%
 Black / African American 10%
 Other 3%

Population density (per sq. mi.): 223.9
 Average household income (2000): \$47,883
 Average property value (2000): \$123,900

Land area (sq. mi.): 854
 Elevation (feet): (average) 9

Industry and transportation information (2001)

Major urban centers: 2
 Slidell 25,695
 Mandeville 10,489

Top three industry sectors by employment:
 Services 41.77%
 Retail Trade 28.41%
 Construction 6.17%

Local airport: 1
 Ports: 0

Federal Election November 2, 2004

Republican 75%

Oil and gas activity

Oil wells 4
 Refineries (major) 0
 Chemical facilities (major) 0

Toxic Release Inventory information

Number of facilities 6
 Onsite released (lbs/yr) 19,199

APPENDIX N17

LCP status: No LCP
 LCP age (in years): 0
 CZM contact: Public Works
 Department
 Date Parish created: 1869
 Form of government: President-Council
 Home rule charter
 Parish seat: Amite



Demographics

Population (2000 Census): 100,588

White	70%
Black / African American	28%
Other	2%

Population density (per sq. mi.): 127.3

Average household income (2000): \$29,412

Average property value (2000): \$85,400

Land area (sq. mi.): 790

Elevation (feet): (average) 47

Industry and transportation information (2001)

Major urban centers: 2
 Hammond 17,639

Top three industry sectors by employment:

Services	42.28%
Retail Trade	25.66%
Manufacturing	8.74%

Local airport: 1

Ports: 1

Federal Election November 2, 2004

Republican 62%

Oil and gas activity

Oil wells	18
Refineries (major)	0
Chemical facilities (major)	0

Toxic Release Inventory information

Number of facilities	4
Onsite released (lbs/yr)	376,746

APPENDIX N18

LCP status: LCP
 LCP age (in years): 4
 CZM contact: CZM Administrator
 Date Parish created: 1822
 Form of government: President-Council
 Home rule charter
 Consolidated
 Parish seat: Houma



Demographics

Population (2000 Census): 104,503

White 74%
 Black / African American 18%
 Other 8%

Population density (per sq. mi.): 83.3

Average household income (2000): \$35,235

Average property value (2000): \$80,500

Land area (sq. mi.): 1,255

Elevation (feet): (average) 15

Industry and transportation information (2001)

Major urban centers: 1

Houma 32,393

Bayou Cane 17,046

Top three industry sectors by employment:

Services 30.88%

Retail Trade 19.13%

Mining 14.49%

Local airport: 1

Ports: 0

Federal Election November 2, 2004

Republican 65%

Oil and gas activity

Oil wells 6,459

Refineries (major) 0

Chemical facilities (major) 0

Toxic Release Inventory information

Number of facilities 3

Onsite released (lbs/yr) 47,523

APPENDIX N19

LCP status: No LCP
 LCP age (in years): 0
 CZM contact: Secretary-Treasurer
 Police Jury
 Date Parish created: 1844
 Form of government: Police Jury
 Parish seat: Abbeville



Demographics

Population (2000 Census): 53,807
 White 83%
 Black / African American 14%
 Other 3%

Population density (per sq. mi.): 45.8 Land area (sq. mi.): 1,174
 Average household income (2000): \$29,500 Elevation (feet): (average) 18
 Average property value (2000): \$68,000

Industry and transportation information (2001)

Major urban centers: 1
 Abbeville 11,887

Top three industry sectors by employment:
 Services 27.68%
 Retail Trade 20.21%
 Mining 12.33%

Local airport: 1
 Ports: 1

Federal Election November 2, 2004

Republican 61%

Oil and gas activity

Oil wells 4,991
 Refineries (major) 0
 Chemical facilities (major) 0

Toxic Release Inventory information

Number of facilities 3
 Onsite released (lbs/yr) 15,091

VITA

Carla Norris-Raynbird

- Address:** Department of Sociology
Texas A&M University, TAMU 4351
College Station, TX 77843-4351
(979) 845 5100 email: raynbird@tamu.edu
- Education:** PhD, Sociology, Texas A&M University, 2006
MS, Sociology, Texas A&M University, 2000
BAH (Bach of Arts Honors), Sociology, University of Winnipeg, 1997
- Awards:** Wakonse Scholarship, Graduate Teaching Academy, TAMU, 2003
Katherine Oaks George Memorial Scholarship in Sociology, U of W, 1996
Rebecca and Roy Hambleton Memorial Scholarship, U of W, 1995
- Publications:** Carla Norris-Raynbird. "A Mitigation Tale of Two Texas Cities", *International Journal of Mass Emergencies and Disasters*, 23(2):37-73. 2005.
Carla Norris-Raynbird. "'For Hire' in the US Gulf of Mexico: A Typology of Offshore Charter and Party Boat Operations", *MAST*, 3(1):51 – 65. 2004.
Carla Norris-Raynbird. "Mediation-fostered Equality?" *Proceedings of the 55th Annual Gulf and Caribbean Fisheries Institute Conference*, Mexico. 2002.
- Reports:** Carla Norris-Raynbird. *Moral Communications: An Exploration of 911*. Report for the Winnipeg Police Services, Winnipeg, Canada. 1997
- Grants:** Dissertation Small Grant, Office of Graduate Studies, TAMU. 2005.
Enhancement Grant, Gender Issues Educational Services, TAMU. 2002
Study Grant from the International Programs Enhancement, TAMU. 2002.
Research Travel Grant, Women's Studies Center, TAMU. 2002.
- Experience:** 2003-2006. Research Scientist, Dept. of Sociology & Anthropology, University of Louisiana. "The Use of Science in Global Climate Change Decision-making". 2003 (spring). Lecturer, Department of Sociology, TAMU.
1999 – 2002. Asst. Undergraduate Advisor, Department of Sociology TAMU
1998 – 1999. Research Assistant, Dept. of Sociology, TAMU and LSU. "Modeling of Social & Economic Development of Ports in the Gulf of Mexico Region".
1998 (summer). Field Investigator. "A Cross-sectional Study and Longitudinal Perspective on the Social and Economic Characteristics of the Charter & Party Boat Fishing Industry of Alabama, Mississippi, Louisiana and Texas".
1997 – 1998. Teaching Assistant, Dept. of Sociology, TAMU
- Professional:** Section Chair, Rural Sociological Society Annual Meeting, Tampa, FL. 2005.
Invited Speaker. International Association of Drilling Contractors. 2001; 2002.
- Service:** Asst Director/Fall Program Coord. Graduate Teaching Academy, TAMU. 2003.
Invited trainor/facilitator. Residence Hall Leaders Training Retreat. TAMU. 2003.